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TO IMPROVE THE SOIL AND THE MIND.

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The Dog tax in Monroe county, N. Y., this year, amounts to about \$3,500. This money, so far as it will go, is distributed *pro rata* among those who have lost their sheep by attacks of dogs, the owners of which cannot be found.

The Cultivator & Country Gentleman.

Characteristics of Leicester Sheep.

Inquiries have recently been made through our columns, as to the characteristics of Leicester sheep. A correspondent of the Mark-Lane Express urges the system of judging at agricultural shows, on both cattle and sheep, by the adoption of a scale of points in each breed,—according to which scale the competing animals are to be carefully marked, and the awards declared according to the result of these marks, instead of from the general impressions and opinions of judges, as at present. He then suggests a list of points for Leicester sheep, of which he seems to be well qualified to speak, and we copy it for the purpose of supplying the information referred to above:

POINTS OF LEICESTER SHEEP.

Head and ears.....	2	Belly.....	2
Neck.....	3	Leg of mutton.....	4
Collar.....	2	Hock joint and hind legs.....	2
Blades.....	3	Flesh.....	6
Chines.....	3	Wool.....	4
Back.....	3	Symmetry, viz.:	
Loins.....	2	Straight line from back of poll	
Hips.....	2	to near the rump.....	3
Rump.....	2	Girth at back of fore-leg, close	
Shoulder kernel.....	1	to elbow so great that hind	
Outside shoulder.....	1	quarters are hidden when fac-	
Setting on and form of fore legs.....	2	ing sheep.....	4
Width and length of breast.....	3	Size with symmetry.....	5
Depth of rib.....	2		

Twenty-three points, sixty-three marks.

A sheep possessing any one of the following bad points should be excluded by the judges, however good it may be in its general points:

1. Want of girth at back of elbow, to make its fore hide its hind quarters.
2. A very bad neck.
3. Badly placed blades.
4. Deficient chines.
5. Bad leg of mutton.
6. Narrow breast, with badly placed fore-legs.
7. Deficient wool.

In connection with the foregoing, it may be remarked that the method of judging by such a scale of points has never been tried, to our knowledge, more carefully and thoroughly than by the Committee on Devon Cattle at our State Fair at Watertown in 1861. The results are published at length on pages 122 and 123 of the last vol. of the Society's Transactions. It was found that different judges when marking the separate animals without consultation, agreed almost exactly with one another in the marks given, and that the awards thus decided were entirely corroborated when a second committee came to pass upon the same animals in the ordinary way of judging. It was thus proved that there is certainly nothing in this system likely to mislead, while the advantages it possesses are that the report shows a solid basis for the committee's decisions, and, in point of fact, they can only be reached after thorough scrutiny, and strictly on the merits of the case. Beside this, every report thus drawn up, places before the mind of the breeder a much clearer and more distinct aim in which to direct his efforts, and tends to promote both the purity and the improvement of the breed.

[For the Country Gentleman and Cultivator.]

BEING COMPELLED TO FARM WELL.

Farmers are too apt to regard some of their blessings as evils. Some years ago, we had an extraordinary drought at the close of summer. They complained much. The following winter was the most intense known. Fruit trees, and many other trees, would doubtless have been totally destroyed, had not the severe drought the previous summer induced an early cessation of growth and ripening and hardening of wood. As it was, many trees were less injured than in some milder winters. The following spring was cool, damp and cloudy. Farmers also complained of this cold spring. Had it been as warm and fair as usual, the sun's rays on the fruit trees, after passing through so terrific a winter, must have destroyed many, notwithstanding the preparation of the previous summer. As it happened, all survived. But cultivators complained of the drought, and of the cold spring, the two things that saved them their valuable orchards. No doubt many other orderings of Providence excite complaints and hard feelings, while in fact they are equally beneficial, although the benefit may not be so obvious to our stupid senses.

Sluggish cultivators will not do their work well unless compelled to do so. If weeds never grew, they would be tempted to leave their cornfields untouched; now, in fighting weeds, they give an impetus to the crop. Good farmers do not wait to be thus driven—they do not allow necessity to drive them; on the contrary, they themselves manufacture necessity. One of the finest cornfields we ever saw, was as clean as a floor, yet kept as mellow as an ash-heap by cultivating once a week all summer. The owners of such fields drive business; do not allow it to drive them.

Other things than weeds compel good cultivation. Many years ago, Long Island farmers found that the Hessian fly was destroying their wheat, while the few fields on fertile land escaped. Common or poor culture resulted in total loss. The best management, by giving a strong growth that would withstand the attacks of the insect, was followed with entire success. Farmers were *compelled* to farm better, and the Hessian fly, by driving them into the improved system, proved a blessing worth more than thousands of dollars in bank. The wheat midge, although it has destroyed millions of dollars, may have done more good than any are aware. It is well known that crops on the best land are most likely to escape—sometimes the difference between a well-drained, fertile field, and one in poor condition and undrained, is the practical difference between thirty or forty bushels of wheat per acre, and five bushels of bad wheat full of insects, and ten of chess, mixed together. JOHN JOHNSTON has on former occasions given us statements of entire success on his rich well-drained lands, while his negligent neighbors lost most of their crop by the insect. There is no doubt that this insect has had a large agency in promoting the greatly improved condition of our agriculture. The increased product of wheat per acre at the present time, notwithstanding the ravages of this insect, when compared with the product thirty years ago, with a fresher soil and no insect, shows what may be done with the stimulus of necessity. Agricultural publications, by pointing out the means for accomplishing this end, have rendered invaluable service. They have become the powerful agents of the willing and enterprising in effecting improvement, in the same way but in a much greater degree,

that the insect has compelled the more sluggish to imitate them, without which perhaps nothing would have done it.

A remaining deficiency on many of our farms, is a want of smoothness. Stones and brush need removal. Wet spots, or the whole surface, need underdraining, that the soil may become uniformly mellow. Good farmers will not wait to be compelled; but the rest will discover in time that modern farm machinery will drive them into smooth fields. Drill sowing and drill culture, which are beginning to effect an immense saving of labor, cannot be performed well among stones and stone-heaps, briars, and elder bushes, nor through beds of mortar, nor among hard and huge clods. Besides the direct saving which these machines are therefore destined to effect, the smooth and finished farming they will yet generally introduce, will be almost beyond estimate. Mowers and reapers will also come in for a large share of the credit of this reformation, for their owners will discover that it is much cheaper to remove by five minutes labor, a projecting stone or other obstruction, than to lose half a day in haying time, with half a dozen hands, besides a five dollar charge for repairs of the machine.

[For the Country Gentleman and Cultivator.]

OUR FARMERS' CLUB.

EDS. CO. GENT. AND CULT.—In Feb. last, I "took it into my head" to get up a "Farmer's Club," and succeeded so well, considering many adverse circumstances, that I have now "taken it into my head" to tell of it, and give your readers a wee bit of a sample, that some of them may be encouraged to go and do likewise—for sure if I can start a Club in a place where there has not been one for 40 years, *anybody* can start one in a more favorable place.

We began with about a dozen members, Feb. 10th, and met every Monday evening till April 14th, when the evenings being short, the going bad and house wanted for repairing, we discontinued with 25 members, having had interesting, profitable and very pleasant meetings.

Nov. 24 we resumed our meetings with good interest, and have now had four meetings this winter, and number fifty members. I think one reason of the success of our Club thus far, is that it was formed for several *distinct* though congenial objects, namely—"1st. The acquisition and dissemination of agricultural knowledge—2d. The promotion of acquaintance among neighbors—3d. The improvement of its members in conversation, composition and public reading and speaking—4th. The improvement of farms, farm implements, stock, buildings, and every department of agriculture."

The regular exercises of the meeting are "reading of the minutes of the last meeting, an original essay or speech not exceeding 15 minutes in delivery, and discussion upon the subject announced at the previous meeting." I think it is the general opinion of the members, that our meetings are among the most *pleasant* and *profitable* meetings of any description that were ever held in our village, and I wish similar ones were in progress in every village and hamlet in the country, and I know of no plausible reason to prevent it. Its all "moonshine" that they can't be sustained because there are none or but few "public speakers." Sustaining such a Club is just the way to make "public speakers." No one can ever do anything that they never tried to do, and will not try to do. It is really amusing as well as remarkable, to see how rapidly *grown up men* will improve in public speaking after the "ice is once broke," and the *breaking* is not really as bad "by a long chalk," as it is cracked up to be—not *half* as bad as breaking baulky steers! No farmer who has raised a crop of corn is unable to tell a neighbor about how he did it, or two neighbors together; and it is just as easy to

tell 10 or 20 neighbors, as one or two; all the difference is "in your eye."

But the actual agricultural profit of such Clubs is no trifle. I believe this town is worth more than one or two hundred dollars more than it otherwise would be, in consequence of our neighborhood Club, for it does not embrace more than a fourth of the town in any respect. The scarcity of labor is getting to be such that every available agricultural facility is in requisition, that agricultural products may be forthcoming proportionate to the demand. The war rests on the farmers' shoulders, and there never was a time when the best implements, breeds, seeds and methods of farming were so necessary as now, and he is a mean creature, not worthy to be called man, who possesses either and is unwilling to tell others of it, and facilitate their obtaining the same. Agricultural periodicals are good, very good, and no farmer can afford to be without one; but Farmer's Clubs can do local good that they cannot do. The reports of the discussions of Farmer's Clubs, published in the papers, are often so belabored for the press that much of their usefulness is lost to us plebians.

The following is a literal transcript of the minutes of our discussion at the last meeting, Dec. 22, upon *Sheep, Breed and Management*, and I hope after reading it, many of your readers will say—"Well, I don't believe but that we could do as well as that in our town," and forthwith go to work and try.

Discussion on Sheep Husbandry.

Mr. P. being called upon to open the discussion, the one appointed being absent, said he owned but two sheep and those belonged to his boys—says that sheep raising is, in his opinion, one of the most important pursuits of agriculturists—thinks there is evidence that we can get along without cotton. It is important that attention be paid to the quality of the sheep. One of the first considerations is in regard to the amount of wool produced, and keep such sheep as are well filled out, and well proportioned, so that there shall be no bare spots without wool. Advises to keep store sheep in good condition, that they may be less liable to the various diseases that afflict sheep. Says he once bought a small lot of lambs at \$1.50 each, and kept them chiefly on oats and India wheat, through the winter, at a cost of not more than ten shillings per head, and in the spring sold them for \$5 per head.

N. G. says he has not been much of a sheep man—has recently bought a few of the fine woolled "Spanish Merinos"—hopes to hear in regard to the best breed from others; thinks sheep should all be well sheltered, and have good feed, something better than hay alone.

Mr. A. inquires the comparative cost of a pound of butter and a pound of wool.

Mr. H. says he had as lief raise one pound of wool as two lbs. of butter; thinks the Spanish Merino the best breed; they are hardy and far superior to the French Merinos. He does not prefer the most gummy—would have short, large legs, and symmetrically built throughout, with a very broad tail; would keep them well through the winter, under a shelter but not too close; would have the young ewes drop their lambs about the middle of April if they have good shelter, old sheep a little later. He says his sheep average over six lbs. of wool per head per year. In the winter season feeds them twice a day with hay and once with straw, and generally some grain, any kind that will keep them fat. Cannot tell the reason why some sheep pull their wool, and don't know why lambs sometimes eat wool from their mothers. Sets a trough, with tar, sulphur and ashes, in the yard, that the sheep may go to it as they wish; not certain whether salt is good for sheep or not; sometimes gives it. Has lost more sheep with the stretches, than any other disease; has not fed many roots to his sheep—don't know but it would be desirable. Sheep don't always die with the stretches, but if they don't get better in 24 hours, there is little hope for them—never knew one recover after two days; don't fully understand what the disease is. He usually shears his sheep the last of June or 1st of July;

always washes his sheep before shearing—thinks an average weight of his sheep alive, in Dec., is 75 lbs.

Mr. McL. said that he has been told that the stretches was a knotting of the intestines, or one slipping into another, and that a certain jerking by the hind legs would cure the disease. Two members said they would give \$50 each for a sure cure. He is decidedly in favor of fine woolled sheep for this climate—thinks six sheep weighing about 80 pounds each, will eat as much as one cow—can produce a pound of wool as easy as two pounds of butter. He feeds his sheep three times each day by daylight—rarely salts his sheep, and never in the winter, unless there has been several days of warm weather—feeds coarse salt if any. Mr. P. has been told that when fattening sheep, salt should be kept constantly before them.

Mr. M. has had experience in wearing woolen shirts in very hot weather at the south, (as a soldier,) and is confident that it is better than cotton for hot weather, as well as cold, and therefore sheep-raising is a matter of consequence to farmers. They should regard the amount of wool, and also the comparative cost of keeping—thinks all animals should be kept well, sheep included. Coarse woolled sheep make the best mutton, but the fleece is the thing of chief consequence. Has asked several sheep-raisers in regard to the comparative cost of keeping different grades of sheep, and has always been told that it costs no more to keep such as shear 6 pounds of fine wool per head, than those that shear half that amount—is not in favor of routing up sheep in the night to feed them.

Mr. D. thinks there is more in the management of sheep than the breed. If any man would raise sheep profitably, he must take good care of them—thinks the time between "hay and grass" is the most injurious to sheep, and they require particular care at that time. It is very essential to feed some grain and roots at this time, after which they will do well on good hay, with suitable shelter—in favor of sheep weighing about 75 lbs. each. He owns some half a dozen long woolled sheep, a mixture of Leicester, Cotswold and South-Down breeds, which have sheared 10 pounds of wool each, sold for the same price as his fine wool—carcasses alive weigh about 130 pounds each. Besides hay he gives about one quart of corn to eight sheep per day—don't recommend giving grain to sheep just before lambing, unless they have been accustomed to it.

C. M. H. says he has followed sheep-raising mostly since he commenced farming—prefers Spanish merinos to any other breed—thinks it worthy of particular attention to secure the best breed—costs no more to keep such sheep as shear 6 pounds than such as shear only 3 or 4 pounds—would keep sheep well, but not too well—in good order, but not too fat. Has examined several sheep that died with the stretches, and has always found the intestines—small intestine some 2 feet in length—swollen badly, full or inflamed, but empty. Sheep live sometimes ten days after being taken with the stretches. Feeds sheep but twice a day, about 9 A. M., and 4 P. M. In selecting sheep looks for the right shape, and then for the length and thickness of the wool. Thinks it well to keep salt so that the sheep can go to it at all times—thinks farmers lose more on sheep "between hay and grass" than at any other season. Sheep should have some at that season.

Mr. H. says that 40 years ago 3 or 3½ pounds of wool per head was an average shearing—says he now has the same flock of sheep that he had 40 years ago, and that his father had before him; would as soon think of shifting off his wife as his flock of sheep—shifts his bucks once in two years.

E. B. M. would advocate the doctrine of feeding sheep but twice a day. The cause of sheep pulling their wool is a humor on the skin, caused by changes from heat to cold—thinks some vegetables necessary to keep sheep in condition from "grass to hay"—thinks every farmer that raises sheep should raise roots, so that his sheep can have some each day.

As the time for adjournment had arrived, and several of our best sheep raisers were not present, on account of the bad going, the same subject was continued for another week. R. N. Randolph, Vt., Dec., 1862.

Experiments in Applying Manure.

The Transactions of the Worcester North (Mass.) Agricultural Society for the year 1862, for a copy of which we are indebted to the Secretary, W. G. WYMAN, Esq., Fitchburg, contain the results of the third year in three sets of experiments in the application of manure. The manure had been applied on six different plots, as follows:

Number One.....	Plowed in deep.
Two.....	Plowed in shallow.
Three.....	Harrowed in.
Four.....	Applied on the surface.
Five.....	No manure.
Six.....	Manure intermixed.

W. G. WYMAN of Fitchburg, gives the following report: Size of field, 1 acre, 32 square rods; plots 32 rods each; crop, mostly clover, harvested July 7-12, and again Sept. 1-6, mowed with scythe, when dew was off, and weighed in the field—the hay thoroughly dried also weighed on plot No. 1, and the result given below, to which we add the calculated total result in dry hay on the other plots:

Plot.	1st Crop Green.	2d Crop Green.	Total Green.	1st Crop Dry.	2d Crop Dry.	Total Dry.
No. 1.....	3,238 lbs.	1,334 lbs.	4,572 lbs.	1,163 lbs.	568 lbs.	1,731 lbs.
2.....	3,078	1,754	4,832	—	—	1,829
3.....	2,892	1,534	4,426	—	—	1,677
4.....	2,788	944	3,732	—	—	1,414
5.....	998	172	1,170	—	—	443
6.....	3,592	1,366	4,958	—	—	1,871

Of the whole field it will be noticed that there was just an acre which had received manure; the product of this acre was $11\frac{1}{2}$ tons green hay, or $4\frac{1}{2}$ tons well dried hay.

ALBERT STRATTON, North Leominster, carried on his experiments on a field of 45 square rods, and harvested Aug. 1, 1862, the following weights of well dried hay from the several plots into which it was divided, under the same classification as above, with the omission of the 6th plot:

No. 1.....	288 lbs.	No. 4.....	345 lbs.
2.....	269	5.....	258
3.....	336		

In this experiment, however, it is stated that lot No. 2 appeared about the same as Nos. 3 and 4, but a small part of it having been winter killed or otherwise injured, the product was thereby diminished.

ISAAC B. WOODWARD, Fitchburg, conducted the same experiment on five plots of 4 square rods each, and cut from them well dried hay, as follows:

No. 1.....	130 lbs.	No. 4.....	146 lbs.
2.....	135	5.....	88½
3.....	136¼		

The weather in the 1st and 3d experiments is noted as follows, and in the 2d very nearly the same:

	First Third.	Middle.	Last Third.
May.....	Dry	Dry	Moist
June.....	Moist	Moist	Wet.
July.....	Dry	Moist	Wet
August.....	Dry	Dry	Dry
September.....	Dry	Dry	Dry

Of the three sets of experiments, the heaviest crop was thus gathered, in two of them, where the manure was applied on the surface, and in Mr. Wyman's, (who was the only one who tried a plot of this kind,) where it was thoroughly intermixed through the soil. Throwing out this sixth plot in Mr. W.'s experiments, his best crop was where the manure was plowed in shallow; and the second best crops, in two cases, were harvested where it was harrowed in, and in one case where it was plowed in deep.

The most prominent point in all these experiments seems to be the importance of applying manure, (comparing the unmanured plots with those which were manured,) and the secondary nature of the inquiry how manure should be put on, so only it is in some way applied. The best and most complete intermixture of it with the soil doubtless increases its good effects very greatly; and when this is not done, the general weight of experiment and observation seems to tend to the opinion that the

deeper it is buried under ground, the farther it is out of the way of the growing plant—while, if simply scattered over the surface, the falling rains may carry down its more important ingredients, and render them nearly as useful as if intermingled by hand with the particles of the soil.

In farther illustration of the best depth at which to apply manures, we note a recent discussion by the Whately, Mass., Farmers' Club, as officially reported in the Greenfield Gazette and Courier (which ranks, by the way, at the head of all the country papers we exchange with, as a local journal.) The subject especially debated was the application of manure upon the tobacco crop. "One gentleman stated that he had hitherto practiced the death and burial operation of plowing in his manure seven or eight inches deep, until the past year; that the idea of applying manure was two-fold—first, to obtain a crop, secondly, to permanently benefit the land. He thought that he too often accomplished the latter object by a sacrifice of the first. This year, after plowing in the bulk of his manure on one piece, he concluded to fit another piece by harrowing in the manure. He accordingly made an application of about one-third of the quantity usually plowed in, and harrowed the land thoroughly, thus mixing the manure intimately with the surface of the soil; then before setting the tobacco he harrowed in thoroughly four hundred pounds of guano, mixed with an equal amount of plaster, to the acre; other treatment the same as the other field. Result, the best and ten days the earliest crop. Another strip large enough to set four hundred plants, instead of harrowing in the manure, he spread it upon the surface, then threw the land into ridges with a one horse plow, and setting the tobacco on the top of the ridges, using a little superphosphate in the hill. This experiment was so successful that he should try it again on a larger scale. In this way all the manure is thrown directly under the rows. The land is a light sandy loam, and dry.

"Another gentleman said that this last year he covered his manure with a plow, from two to three inches. Sod ground, turned over the previous fall, seven inches deep. Thinks that he has lost five hundred dollars by burying his manure so deep on his small farm, in six or eight years. He wants the manure so near the surface that the tobacco can get hold of it the first part of the season. Gave the result of an experiment with one dollar's worth of yard manure, and the same value of guano, and of superphosphate. The yield was respectively forty-six pounds, forty pounds, and nineteen and a half pounds. He and others were decided in their expressions of dislike for Rhodes' superphosphate so much praised by Dr. E. Pugh in the Country Gentleman last spring. The Club were nearly unanimous in favor of covering manure less deeply, being governed in this depth by its fineness.

"Another gentleman said that he cultivated from fifteen to twenty acres of tobacco annually, and that he does not want to plow his land over five inches deep, thus leaving his manure as near the surface as possible; manure, coarse and strawy. Sows his guano on the surface of the plowed field and harrows in, sometimes using Shares' cultivator harrow for this purpose, drawing it both ways. In the hill, applies superphosphate. Used one ton each of Hoyt's and Coe's; the latter has proved far the best this season, with a fair trial, two rows being manured with Coe's and the alternate rows with Hoyt's, through the field. Had always used Hoyt's heretofore, and was prejudiced against Coe's. He said that if his manure was fine, he should choose to harrow it in."

The Collection of Agricultural Statistics.

Under the Law for the Collection of Agricultural Statistics in this State, enacted at the last session of the Legislature, blanks prepared under the supervision of the Executive Committee of the State Agricultural Society, have been provided by the Comptroller, and forwarded to the Presidents of the County Agricultural Societies, together with copies of the Law, in order that the duties therein required to be performed, may be fully understood.

This law, it will be remembered, enjoins upon the agricultural societies receiving bounty, either in money or books, from the State treasury, the complete collection of our agricultural statistics, by the appointment of an enumerator in each school district, who shall make returns to the president of the Society from which he receives his appointment. The Society is then to enter the returns of the several school districts in the county under its jurisdiction, upon similar blanks; to foot up the aggregate for the county, and to transmit the blanks containing these aggregate results to the Secretary of the State Agricultural Society, "on or before the 1st of February."

In return for the labor thus performed, the County Societies are to supply the district enumerators with copies of the Transactions of the State Society and of the American Institute, to be furnished for the purpose by the State; and every Society faithfully performing its duties under the act, is to receive the same pecuniary bounty heretofore paid by the State, *without* being obliged, as hitherto, to procure a similar amount, by subscription or otherwise, in order to receive its appropriation. In counties in which no societies exist, the appointing power, as respects district enumerators, is lodged with the Executive Committee of the State Agricultural Society, who are authorized to pay from the State Treasury a proper compensation to such enumerators, provided only that the aggregate of this compensation shall not exceed the amount that would be drawn by a county society if in existence.

Such, in brief, are the provisions of the law, and, as this is the first year of its operation, this short explanation of its requirements will call the attention of the farmers of the State, and the officers of local societies, to the importance of complying with its provisions. Its intent is simply, in the interest of the Farmer himself, to inaugurate the annual collection of a mass of facts bearing upon his pursuit, calculated not only to aid him in its prosecution, but also to exercise an important influence, as we believe, upon his personal prosperity, and upon the repute and thrift of the State itself.

The Annual Collection of our Agricultural Statistics, while its good results will some of them be immediately perceptible, is like planting a tree which will yield a larger and better crop for generations that are to come. Among its earlier fruits, we should anticipate a better illustration than we could derive from investigations of any other kind, *of the growing prosperity of our agriculture*. We need, in order to retain on our own fields the labor and enterprise of our young farmers—so many of whom, during the past twenty years, have migrated to the West—we need the means of showing the actual returns now obtained here, and to elucidate, by a comparison of the returns of different counties and districts, the comparative improvement attained in each, and the necessity which the more backward should feel, to emulate the better success of their brethren elsewhere.

Such statistics, moreover, will operate, in a far more perfect manner than any Board of State Assessors can do it, to equalize the taxation of the State. We take it that every county is willing to bear its fair share of the burden, and only objects where changes are made, based, at it may be feared, upon insufficient testimony. But in the properly collected returns of the farming of the State, we have figures which involve neither errors of judgment, nor personal partialities—which are equally fair and just for all—which would base the valuation of lands, not upon what they might be made to yield, but upon what they actually do produce from year to year.

Again, the immediate tendency of these statistics, as regards the value of land, is an important consideration. Suppose Mr. A. has a farm to sell, and can lay before the intending purchaser the annals of the school district, and of the county in which it is situated, for a series of years,—we fully believe that many a man who might otherwise go elsewhere to settle, will be a purchaser of land in New-York. The peculiar advantages of each location will be indicated, so that selection may be more judiciously and satisfactorily performed.

These remarks are made under the sincere belief, founded on observation, and from association with the farmers of the State, that the tendency of our Agriculture is decidedly of a progressive character, and that, as it improves with each successive crop hereafter to be gathered in, the advantages of New-York as an agricultural State, will become constantly more and more evident. If we lived in a State whose soils annually bore witness to a greater and more hopelessly irretrievable degree of exhaustion, or whose Farmers were plainly becoming poorer and less enterprising, we should be energetic opponents of this Law. If we lived in a County, the products and characteristics of which we were ashamed and afraid to make known,—where we never desired to have new capital invested and new measures of improvement tested and promoted,—out of which we hoped to have our children emigrate, with no prospect of selling the inheritance they were abandoning, except at a sacrifice—we should coldly stand by and permit the law to remain inoperative and the whole measure fall to the ground. If we were ready to confess that on a farm of our own, and on the farms of our immediate neighbors, nothing but bad management and constant losses were the result of the labor performed, and that they and we were daily approaching a condition of bankruptcy, we should absolutely refuse or quietly neglect, when the enumerator requested our returns, to answer his impertinent interrogatories with one single word of information, or to aid him in any way in procuring it from others.

We shall therefore watch with interest the working of this law. The blanks have been already sent to very nearly every county in the State. Those counties and districts which are the slowest to manifest the public spirit necessary to secure the returns required, or which pass them by, will not secure for themselves a very enviable reputation; and we are glad to know that, in so many, measures are already under way to comply with the provisions of the act. The labor is considerable, but when divided up among so many—if those are selected who enter into the matter cheerfully and in earnest—it will nowhere be a heavy burden, and we trust it may entail the most gratifying results, and that it may open the way to the future collection of the decennial census of the State in a much more reliable and much less expensive manner than has been the case hitherto.

[For the Country Gentleman and Cultivator.]

METHOD OF RAISING FIELD CARROTS.

MESSRS. EDITORS—Mr. S. G. Collins, page 353, Co. Gent. for Nov. 27, asks for "a good article on the raising of carrots." I do not undertake to supply such an article, but in case none of your more experienced correspondents answer the call, the following is at your service.

In former numbers I spoke of the yield and comparative value of this crop. I stated 1,000 bushels as above an average crop, but gave some extempore measurements from my field, which indicated a yield greater than this.

Mr. Collins remarked upon it, that both himself and his neighbors are unable to arrive at such high figures, or even two-thirds of it, although using plenty of manure, great care and thorough cultivation. Mr. C. has probably since read in your columns the actual measurement of that field, showing a greater yield than was at first intimated. In this connection the manner in which these carrots were raised, may be presumed to answer for a method until a better one is offered.

Three years ago the land was deeply plowed and subsoiled with the "lifting" variety of plow. The next year the same was done at right angles to the first. The last four crops have been corn, carrots, and beets each year, with manure. I could see no difference where the crops of this year crossed the carrot plot of last year, although my neighbors assured me that there would be such.

Preparation of the Ground.

The ground for the last crop was plowed last fall, the plow running about 10 inches deep, although 6 inches would have loaded a good team before subsoiling. Manure from the cow stable, which is kept well littered with spent tanbark, was hauled on daily during the winter, and spread and dragged in in the spring.

As soon as the ground was dry enough, I gaged up the land into parallel ridges precisely $2\frac{1}{2}$ feet apart. Then, with two horses walking in the furrows, I run a lifting subsoil plow through the middle of the ridges to a depth of 17 inches. I then rolled it with a field roller, which, as it bore only on the ridges, pulverized the lumps raised in subsoiling very thoroughly. This brings me to the

Preparation of the Seed.

By rubbing hard through sieves, and by picking, I clear the seed of all the stems and small seeds, and also most of the little burrs which are attached to the end of each seed, causing them to adhere to each other. I then usually coat the seed with flour, plaster, ashes or lime, either or all. It is done thus:

First wet the seed, upon a table, with a solution of granulated sugar or gum arabic. Then sprinkle on plaster, or whatever is desired, and rub and roll till the seeds do not adhere, and are dried off. It may be exposed to the sun to dry, or for dispatch may be dried off in a kettle over a slow fire, rolling and rubbing to make the pills round and smooth. Other coats may be added till such size is attained as may be desirable for the kind of sower used. One coat even will be found of much service in the even distribution of the seed.

I thus prepared most of my seed this spring, and was enabled to sow it by a machine like corn or peas, a single pill or seed at a time, and very even and thin. But for the benefit of experimenters I will state that not one-half the seed germinated. I used fire heat in drying, and trusted to another what I generally do myself. The year previous I dried in the sun, and the seed did well.

As to the material for coating, the flour coats fast; the ashes increase slowly alone, but I like them. The plaster dries off well, and the lime is useful in forming a smooth, hard coat for the last. As the seed swells in the ground it bursts the shell. On the 22d of May I commenced

Sowing the Seed

on the ridges as left by the roller. With two horses in the furrows the machine sowed and covered the seed ex-

actly in the middle of the drills, and consequently directly on the cut of the subsoil plow. I let the machine sow about 3 inches apart, a single seed at a time. This seed failing to germinate, I sowed again, with the machine, the raw seed, (not having time to coat it,) without farther preparation of the ground.

It will be observed that the seed has under it an increased depth of the best soil thrown from the furrows, which is not packed by horses' feet, as in one horse cultivation, or as in the random work of preparing the whole surface and then laying out the rows. In the latter usual method a great portion of the best soil is of no use to the plant.

The Cultivation.

As soon as weeds appear, whether the plants show or not, I passed over the field with the machine, cutting all the weeds except a strip of two inches, in the middle of which were the carrots. As soon as they were sufficiently strong, I gave boys 5 cents per row (41 rows to the acre) to weed this strip, by which they made good wages.

As the weeds appeared, it was again cultivated, pulverizing all the space except the centre strip. The boys were again employed to clean out and thin this strip by hand at 5 cents per row. On one plot *behind the barn*, they availed themselves of some nice, sharp hand hoes, by which they made money fast. What I said when I discovered their labor-saving contrivance is of less importance than the fact that by means of their careless use of it the field was short about half a crop. I presume other fields lose as much from the careless motion of the hoe.

In thinning out, I disregarded the general rules of the books, and reasoned the matter thus: If the usual established rules for carrots—6 to 8 inches apart in rows 12 to 15 inches, be correct—then for rows 30 inches apart, three inches would give the same number of plants per acre. But in my field I have seen good carrots grow in close proximity. By having half the number of rows for the same number of carrots, I shall save 50 per cent. of the weeding, thinning, sowing and plowing out. According to these suggestions, I left the plants quite thick in the rows—often one inch apart, but taking care to remove all clusters of more than two, and to select the weakest plants to remove.

In sowing I applied a sort of separator to the drill, which divided the seeds as they fell, and they reached the ground through different channels, and at different points. Therefore the clumps were few.

To some rows I sowed ashes and plaster with the seed, but saw no effect from it.

As the plants and weeds grew, I run the machine through them. When the tops spread over the ground, I used the horizontal knife on the machine, which reached under the tops, shaving up the earth and cutting any weeds close up to the row.

Eventually the tops of these carrots lapped together, covering the *entire space* (30 inches) between the rows. When an occasional weed had struggled up through the tops and showed signs of seeding, I made it the duty of my morning visits to pull it out. There was not more than enough to make the labor pleasant.

Harvesting the Carrots.

With a sharp hoe I first cut off the tops from say half a dozen rows, to rake the top into a winrow. I then run the subsoil plow through close to the row. The White variety are then easily picked out by hand and thrown in heaps to dry before carting in. For the Orange carrot a furrow of the common plow should precede the other. The tops are carted to the cows, and the roots are dumped from the cart through the barn floor into the cellar.

The yield of this field was given in a former number of the COUNTRY GENTLEMAN, as also the weight of the tops.

I found in harvesting, abundant evidence to sustain my views of less thinning than is usually practiced. When the plow removed the earth from one side, good even sized roots were seen standing in close contact, as Jimmy said, as thick as comb-teeth.

Specimens were taken to the State Fair, and took a

premium, which grew so close together as to be flattened on two sides, and yet they were seventeen inches long. I have no doubt that in good soil a greater yield of carrots per acre may be had, standing at a distance of 2 inches apart uniformly, than at six inches—that is where the distance between the rows is 30 inches or so much as to give good ventilation. Perhaps three inches were better, but where plants chance to stand 2 inches apart I would not pull one and leave them four.

Elmira, N. Y.

S. W. HALL.

[For the Country Gentleman and Cultivator.]

Cost and Durability of Wire Fences.

In the COUNTRY GENTLEMAN of Feb. 20th, 1862, (page 123, 3d column,) occurs the following passage: "Wire fences, which have been tried and found not to answer any useful purpose." As the passage, in a journal like yours, may deter many from building wire fences, I shall endeavor to show by comparing with other fences, that it is the cheapest fence that the farmer can build. We have fences of wire which have been in use eleven years, and still nearly as good as new. We use large white oak posts, 18 or 20 inches in diameter, and eight feet long, for the end or drawing posts of the fence. These we set in holes dug three feet square, and three and one half feet deep, leaning back a little, and fill the holes with small stones. To these posts are used two braces twelve feet long, and six inches across the small end, to keep the wires from drawing the posts forward. The braces are fastened by cutting a notch near the top of the large posts, and at the proper distance from the post a short sill, six feet long, is laid about a foot deep in the ground for the butts of the braces to rest against. Then the tops of the braces are slid in the notch. The butts of the braces should not be over three feet apart. The other posts, which are of white oak, and six feet long, and not less than six inches in diameter, are placed 33 feet apart. We formerly placed them 66 feet, but this is too far. We use No. 6 annealed and selected wire. The different pieces are joined by lapping two ends and twisting one end one way and the other end another way. Holes are bored through one end of the post, (which we dress down on the side opposite the notch,) six to ten inches apart, the nearer the ground the closer the wires must be, as cattle, calves, &c., will endeavor to creep through. We use six wires to the fence. Begin by putting the wire around the end post not dressed and between the braces, and lap the end of the wire around the wire, and when you come to the other end, put the wire through the hole, where we use cast iron rollers to draw the wires to tighten them. These rollers are six inches long, two inches in diameter, and have a hole through them near each end, the hole at one end being one-fourth way round from the hole at the other end. Near one of these is a small hole for the wire to go through. After drawing the wire as tightly as possible by the hand, cut the wire off and draw by the roller, by placing a small bar in the large holes of the roller. When the wire is drawn tight enough put a pin in one hole to keep the wire tight. We use wrought iron or cast iron hooks to fasten the wires to the other posts. We think that a fence put up in the manner described, is the cheapest one we can build, and we are making our new fences of wire.

They will last as long as post and rail fence, and when one post rots off another can be put in with but little trouble, costs but little to keep in repair, are soon made, and no snow drifts along them, as there is nothing to stop the snow. Now let us compare the cost of a wire fence and a post and rail fence, each a quarter of a mile long:

Estimated cost of a Post and Rail Fence, 4 rails high.

121 posts, at 20 cts.	\$24.20
480 rails, 12 feet long, at 12 cts.	57.60

Cost of material	\$81.80
do. do. of wire fence	59.50

Difference in favor of wire fence	\$22.30
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Estimated cost of a Wire Fence, with six wires of No. 6 wire.

960 lbs. wire, at 5 cts.	\$48.00
40 small posts at 18 3/4 cts.	7.50
2 large do. 37 1/2 cts.	7.50
4 braces at 25 cts.	1.00
6 rollers at 25 cts.	1.50
240 hooks	75

Cost of material	\$69.50
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The above is the difference in cost of material only. The labor of building a wire fence will be less than one-half of a post fence, as there is but one-third as many post holes, and there is no fitting to do, no difference if some holes are further apart than others.

Readington, N. J., Dec. 1862.

[For the Country Gentleman and Cultivator.]

Experiments in Manuring Hoed Crops.

I see in some back numbers, the question of manuring in the hill, or spreading manure broadcast for corn and some other hoed crops, argued. I presume in both cases the kind of soil and latitude govern this question more or less, and any pretence for one certain mode to be applied in all localities and kinds of soil, would certainly lead as often to failure as success.

My mode of applying manure, after several trials, for corn, potatoes and ruta bagas, is to spread it over the ground thick, and to plant no more than I can spread over. My potatoes invariably yielded poorly with a poor quality, when manured in the hill or row. I could never raise over twelve barrels for one planted, manuring in the hill or row, while in 1861, manuring broadcast, the yield was 135 barrels for six barrels planted, on 2 1/2 acres of ground. This year 10 barrels yielded 494 bushels, or nearly eighteen for one, while for experiment sake, on the same kind of soil, with a good compost in the hill, I raised 2 1/2 bushels from a peck. My ground is a sandy loam.

My last year's crop of corn, manured in the hill, was a small one, yielding not over 50 bushels of ears per acre. The stalks were very tall. I planted my corn this season, the manure spread broadcast on 4 1/2 acres—and in the same field, alongside the first plot, 1 1/2 acres with compost of yard, hog and hen manure in the hill. The result was 387 bushels of ears on the 4 1/2 acres, of sound corn, and about 2 1/2 loads, or 60 bushels of nubbins, while the plot of 1 1/2 acres, manured in the hill, yielded about 2 1/2 loads, or 60 bushels of ears, only about ten of which seemed sound; the rest was partly fed to hogs and beef cattle, and partly to the fowls. The stalks were not as tall this year as in 1861. Early Burlington corn yielded well, manured in the hill. For a field of ruta bagas of 1 1/2 acres, on a clover sod, I spread 630 bushels of night soil. The yield is 480 bushels, of which were sold 159 bushels at 33 1/4 cts, or 3 bushels for a dollar, and 100 barrels at \$1 per barrel, delivered in Brooklyn, N. Y.; the balance on hand for use, but not to be fed to cattle at such prices.

I always have my manure plowed in deep when spread in the spring, and shallow in fall. Ashes, of which I have used several thousand bushels these last few years, are only harrowed in.

JOHN F. HILLMAN.

[For the Country Gentleman and Cultivator.]

Substitute for Court Plaster.

Never having seen in print an excellent substitute for court plaster, for cuts and bruises upon the hands in cold weather, I give you the following:

Take half a dozen pig's feet, well cleaned for cooking, and boil to a jelly of say about half a pint or less—then spread with a brush on any waste scraps of silk, and we find it equal to any adhesive plaster we have ever used. Any fatty substance in the boiling of the feet raises to the surface, and when cold can easily be removed.

One of its chief excellencies is, that it costs nothing but the trouble of preparing, which may deter people from trying it, on the principle, *little cost, little worth*.

W. H. S.

Alton, Ill.

[For the Country Gentlemen and Cultivator.]

CULTURE OF CHICORY.

MESSRS. EDITORS—Inquiry is made in your journal of the 1st inst., about the culture of Chicory. My experience is confined to raising a few bushels annually in the garden for our own use.

Chicory belongs to the family of *Composita*, or compound flowers, and has a milky juice like the dandelion. It produces its seeds the second year, yet the root is perennial, and even fragments of it live and grow. The root is white, shaped like a carrot, but does not grow as large and has many branches or fibres. The flower stalks are about four feet high, branched with abundant foliage and numerous large blue flowers.

It is principally cultivated in Germany, and used either alone or with other materials, as a substitute for coffee. We import large quantities of it every year, and it is raised to a considerable extent for market by German farmers on Long Island. We were informed by a coffee burner in New York, that one farmer in 1861, raised fifty acres, for which crop when prepared for market he received eight thousand dollars. The price for the dried root in New York, the past year, has been eight cents per pound or even higher.

The seed may be obtained at the principal seed stores. It should be sown in drills like carrots, and receive similar culture. The soil should be light and of easy tillage, and the manure well fermented and finely pulverized. The roots may be dug in October, the tops furnishing food for cattle, though fed in excessive quantity to milch cows, they are said to injure the quality of the milk.

Preparation and Use.

Wash the roots clean, slice in thin pieces, dry in the sun or in a moderate oven, and brown and grind the same as coffee. It is stronger than the pure coffee in equal quantities, gives a good color to the decoction, but does not settle quite as clear as the genuine article. It is an ingredient in all the burnt and ground coffee sold in market. The flavor is agreeable to most persons, and used as a partial substitute for the Java it does very well. We recently treated our friends with a dish of coffee made of chicory, rye, and wheat bran stirred up with molasses and browned like the other ingredients. It was pronounced very good, and they were surprised to learn that it contained not a particle of coffee.

The only objection we can find against its culture as a farm crop, is that when once sown it is exceedingly difficult to get it out of the land, and it becomes a weed. Yet it is esteemed abroad as a forage plant, and is readily eaten by cattle either green or dry. The root is very solid and does not shrink very badly in drying, so that a rod square will furnish an abundant supply for a family for a year.

T. S. G.

[For the Country Gentleman and Cultivator.]

SOWING PLASTER.

MESSRS. EDITORS—Permit me to say a few words in favor of sowing plaster. Judging from experience and observation, I am satisfied that there is nothing that will pay as large a profit, in proportion to the expense, as plaster. An application of 100 lbs. at an expense of less than 40 cents, will often double a crop of clover, adding from half a ton to a ton of hay per acre; and where the small kind is sown, and cut early and the second crop saved for seed, making a difference of from one to two bushels of seed per acre. Now allowing the plaster to make a difference of half a ton of hay, and one bushel of seed per acre, and calling the hay \$10 a ton, the average price here, and the clover seed \$5 a bushel, there

is an addition to the value of the crop for one year of \$10, or a profit of 2000 per cent. While at the same time the plaster would benefit the clover the next year, more than enough to pay all expenses. At this rate a ton of plaster sown on 20 acres, at a cost of less than \$10, will give a profit of about \$200. Or suppose the plaster only gives one-fourth of this profit, it is yet a profit of 500 per cent., which is still vastly greater than is usually realized on other farm operations. While a profit of 100 per cent. will be so small an addition to a crop, as to be often not perceptible, without weighing or measuring. This is often the case where plaster is sown on wheat or oats, or applied to corn and potatoes, as a difference in these crops that is plainly seen by the eye, would evidently make several bushels of grain, or many bushels of potatoes difference on an acre, and give a profit of several hundred per cent. For this reason, no farmer should discard the use of plaster because he does not see much benefit to his crops, while growing or when harvesting them, but only when by actual weighing or measuring he has demonstrated that it has no effect.

It is true that plaster has a different effect in different sections, and sometimes the effect varies greatly on different farms in the same section. As for instance, I have seen on the hills in Otsego Co., oats that in their deeper and darker green and ranker color, showed where the plaster had been sown so plainly, as to be perceived some distance from the field, while it is often difficult to tell the difference where plaster is sown on oats, and where left off, though it may be in the middle of the field, in this section. So too in regard to clover. I have seen fields where there was a heavy crop of clover just as far as the plaster went, while wherever it was not sown the crop was very light, while on other fields the effect was comparatively small. Though in regard to clover, the fields or farms where plaster has but little effect, may be regarded as the exception, as, I believe as a general rule, the reverse is the case.

Again, plaster has the greatest effect on land that is considerable run down, and where it has never been sown before. In proof of this, I have seen some very surprising instances. One on a farm adjoining mine, three years ago, on a field of clover the second year after seeding, a dressing of something over 100 lbs., but less than 150 lbs., made the crop a good deal more than double, I think, and I had abundant opportunities for observing both crops, three times as large as it was the year before. Nor is this a solitary instance; I have seen other instances on other farms, where the effect was nearly or quite as surprising. While I have made experiments on my own farm that showed, that on land somewhat run down where plaster had never been sown, less than 100 lbs. of plaster more than doubled the crop of clover.

Still, notwithstanding these facts, there are many farmers, in this as well as other sections, that never sow plaster. They seem to be one idea men, that think if they use barn-yard manure they have no need of plaster, or if they use it, it must be in place of manure. Said a farmer of this kind to me, "I had rather have barn-yard plaster," (meaning manure.) I replied, "I would rather have both. That they would work much better together than either would separate; that by sowing plaster on clover, I would have more hay to feed, and could make more manure; that the manure put on my grain fields would give me more corn fodder and straw, which with coarse grain would enable me to make still more manure; and that by thus adding to my manure, I could add to my crops, while by adding to my hay and grain crops enabled me to add still more to my manure. And that I thought this was not only the best way to improve my farm, but that it would lead to the most profitable course of farming on a grain farm."

r.

FAT HOGS.—Capt. Charles Parsons and Son of Conway, Mass., killed recently two full blood Chester county hogs, bred by J. S. Grennell, Esq., Greenfield, one of which was nineteen months old and weighed dressed 655 lbs., and the other twenty months old, weighed 768 lbs., dressed.

SMITHFIELD SHOW OF FAT CATTLE.

The Great Smithfield Club Show of Fat Cattle and Sheep took place last month at London. It was held in a new Hall erected for the purpose at a cost of about \$150,000, by a company of which the late JONAS WEBB was President—400 feet in length, with a clear span of 125 feet and 75 feet high, with a minor hall attached 100 feet square. The cattle were ranged in the middle of the Hall, with a show of light implements, seeds and roots in four spacious galleries, and heavy machinery under the galleries. Thus the Smithfield Show has come to be almost as general as those of the Agricultural Societies, but prizes are only offered on fat stock. The amount of these prizes, including medals, cannot be far from \$10,000. About \$35,000 ("upwards of £7,000") were taken for admissions of visitors (149,300 in number) during the five days the show was open to the public.

As to the exhibition itself, it is characterized as "the biggest and, as far as quality is concerned, poorest show of Cattle the Smithfield Club has collected together" during its long existence. The different breeds were represented as follows:

Devons.....	33 entries.	Scotch Horned.....	4 entries.
Herefords.....	26 do.	Scotch Polled.....	7 do.
Short-Horns.....	44 do.	Irish.....	1 entry.
Sussex.....	19 do.	Welsh.....	5 entries.
Norfolk Polled.....	2 do.	Cross Breeds.....	18 do.
Long-Horns.....	2 do.	Extra Stock.....	18 do.

Of the pure breeds, the best represented was the Devon; next in order, in point of merit, are classed the Herefords and Shorthorns—the latter being best represented in the classes for females, the former in the classes for steers and oxen. The third in merit was the Scotch Polled breed, including Angus and Galloway. The Sussex breed formed an important feature both as regards the numbers competing and individual excellence in some of the animals. Several of those awarded prizes are said to have possessed "so much of the type of the Devon as to lead to the supposition that the best specimens of both breeds are so nearly allied that they might compete in the same classes, or that superior Devon bulls have been used by the breeders of Sussex cattle." But the most remarkable animals as regards size and quality of flesh were shown in the classes for crosses and extra stock. "The influence of the Short-Horn in developing the beef producing capabilities is very conspicuous," says the North British Agriculturist, "the two most remarkable animals among the crossed breeds being a three years and four months old ox, sire Devon, dam Short-Horn, shown by Mr. Overman, Norfolk; and an ox four years and eight months old, sire Short-Horn, dam Polled Aberdeen, shown by Mr. James Stewart, Aberdeen." The latter was awarded the prize as the best animal in the male classes competing at the Birmingham Show the week before, but the Smithfield judges reversed the decision, giving the first to Mr. Overman and the second to Mr. Stewart. Mr. Overman's ox is said to have shown his Devon parentage very strongly, his "form and color being those of the Devon, with beautifully developed hind quarters, loins and back-rib."

The show of sheep was very superior, general excellence distinguishing alike the long-wooled and short-wooled sheep. The Leicesters and South-Downs fully sustained their reputation as the two leading English breeds—the latter having been better represented, if possible, than ever before. The Mark Lane Express says, "Mr. Rigden carries off the cup with the handsomest pen of South-Down wethers he has ever yet exhibited. For fine points and good frames, breed, mutton, and wool, these utterly eclipse

all his previous efforts, as they do the other sheep entered against them."

Among the exhibitors of Implements we notice the name of Mr. EMERY of this city, with his Cotton Gin.

[For the Country Gentleman and Cultivator.]

WINTER FEEDING MILCH COWS.

You have an article in the COUNTRY GENTLEMAN, page 402, last vol., on "Feeding Cows in Winter," in which the writer commences by saying "that for winter feed for cows that give milk, I have never tried anything that gave better satisfaction than good bright corn fodder and carrots."

To this I can most cordially subscribe; and having had some experience in the premises, will presume to add that cows thus fed, will not only increase in the quantity of the milk produced, but also that the milk will be of much richer quality, giving a much larger per centage of cream; and also that the butter made therefrom will not be of that white color so peculiar to winter made, and doing away with the necessity of coloring the butter by artificial means, which is, to say the least, objectionable.

Our experience goes to show most conclusively, that milk in the autumn or early winter, is far more concentrated and rich in cream, than at any other season of the year. Indeed, the difference we conceive is vastly more than we are wont to imagine; and I would like to inquire if some of the readers of the COUNTRY GENTLEMAN be not prepared to give some actual data on this matter? It has seemed to us (without having the benefit of any positive experiments in the matter,) that the yield of cream was nearly or quite twice as great from the same amount of milk at this season of the year, than in the months of May or June. Possibly, however, our ideas are exaggerated.

With good, warm and convenient stabling, and the right kind of fodder in abundance, and also with butter at present prices, the producing of it, even in the winter season, is a matter worth looking too.

Our course for several seasons has been, to have a portion of the cows, (the oldest, or those which need to be disposed of first,) go farrow; and at the commencement of winter to begin feeding with corn fodder and roots and meal; say half a bushel cut roots and a peck of cobmeal daily, and what corn fodder they will consume without wasting; and they will ordinarily increase in flesh and also give at the same time from six to nine quarts of milk daily, and from four to six weeks before intended for the butcher, (which is ordinarily from April to June, according to market,) to dry them off gradually, and keep up or increase the amount of feed.

In pursuing this course, cows will vary, some giving little milk and gaining quite rapidly in flesh, and with others just the contrary, their food seeming to go the most to the formation of milk.

In some cases I have milked until May, when dried off, and the animal has gone to grass in high flesh, and ready for the butcher on grass alone, in some 30 to 60 days.

Salisbury, Conn., Jan., 1863.

W. J. PETTER.

Mr. ARTHUR GILMAN of Glynlyn Farm, Lee, Mass., has lately purchased from the celebrated Devon herd of E. G. FAILE, Esq., West Farms, the bull "Huron," with the following cows and heifers: 'Eveleen 3d,' 'Lady Elgin,' and 'Eveleen 4th.'

Mr. FAILE has also recently sold to Mr. JOHN F. ANDERSON, South Windham, Me., the following females: 'Kate,' 'Winona,' and 'Kate 2d,' and to C. H. NICHOLS, Superintendent Government Hospital, Washington, D. C., the bull 'Chippewa,' and the cow 'Bowley 2d.'

ILLINOIS HORTICULTURAL SOCIETY.

[REPORTED FOR THE COUNTRY GENTLEMAN.]

White Willow--Salix alba.

All prairie-dom, or at least Illinois prairie-dom, is just now at the height of a willow fever, equaling in intensity its great prototype, the multicaulis fever of memory. In fairness however, it must be confessed that the symptoms do not lead to a prognosis so unfavorable as in the former epidemic, in which a complete collapse followed. It appears that the white willow was planted to some extent in Illinois some years ago, and in a few instances accidentally grew into a complete fence. The owners did not discover its merits as a fence—in other words, “did not see the fence”—but some cute tree-peddlers did see it, and proceeded to buy up all there was to be found in the State, and then to bring it before the public in such manner as to raise the present fever.

These speculators, four or five in number, have already made, I was told, some \$25,000 in the operation, to the chagrin of some good nurserymen who sold them the cuttings for a mere trifle. This willow has been variously called white willow, grey willow, long-leaved willow, and powder willow. It is used by Dupont for making powder, and is the *Salix alba* of Gray.

Jona. Huggins of Woodburn, exhibited to the meeting trees of two years' growth from the cutting, 18 feet in height, and four inches in diameter at the surface of the ground. The cutting, when planted was about the size of the finger and 10 inches long.

Mr. Minier moved that it be recommended to be grown on the prairies for timber.

Mr. Overman thinks it superior for timber. It will take the place of the locust, which has been destroyed by the borer. Thinks it will change the face of the prairies quicker of anything, by reason of its vitality, rapidity of growth, and the shape which it assumes. It will convert the sloughs into timber belts. Thinks it will make excellent shingle timber. It will be valuable for fuel and for posts.

Mr. Dunlap—An acre of it nine years old will yield 160 cords of wood. *Splits free*. His German gardener says it makes boards almost as good as pine—does not warp. Cuttings are cheap. It will make the cheapest wood we can get. Twenty years hence it will be used for lumber. It challenges any tree we have got. It is a boon to the prairies.

Mr. Overman—If you cut it when the timber is not growing, it grows again most vigorously from the roots.

Mr. Stimson of El Paso—In England it is raised extensively on the fens. Has often wondered why it has not been raised on the prairies. About wood, all the points taken are good. You can cut it as much as you please. The ease with which it can be raised from cuttings is a strong point in its favor.

Mr. Minier—English opinion is strong in favor of it. Any man who has to haul his wood five miles, ought to plant this as economy. The prairies can never be as valuable until they are belted with timber.

Mr. Huggins—When cut down to near the ground, it sends up about 30 sprouts to the height of 12 feet, as shown in one of the specimens present.

Mr. Dunlap offered the following:

Resolved, That we recommend the White Willow under discussion, to the several railroad companies, within the snow line, as valuable to plant along portions subject to snow drifts, that in its rapid growth it will form the most valuable protection for this purpose. Adopted.

Mr. Dunlap also moved to recommend it for live fences, and said he had once thought no willow would make a good live fence. The genius of the prairie he supposed had stuck this willow down and it grew into a fence. The contagion had spread from one to another, like small pox or measles. The osage orange can only be used on high land. This grows anywhere not too wet. For shelter

belts, and a fence to cut wood or timber from, it is what we need. A fence nine years old, was not less than 40 feet high with a base of 30 feet.

Mr. Bliss—Several, after seeing the *accident*—the palisade—went to planting it all around their farms. We did not at first see it as a fence. Mr. Edwards took a tree to the exhibition of the State Society. It was recommended as the panacea for all the ills of the west. The tree peddlers got hold of it. Under the head of philanthropy, they are allowing the farmers to have a few cuttings at one cent a piece. Cattle do browse it, yet it will make a good fence. Will not do for small lots—it takes up too much room. Finds they bear dwarfing—can't kill them. Has seen it grow in the water and throw down a stool of roots. Thinks it will dry up the sloughs and prevent washing.

Mr. Bryant fears we will get up a multicaulis fever. It is valuable for shelter and timber—doubts it for fence. Wishes the Society would be cautious.

Mr. Emery thinks seeing what there is in the northern part of the State, will convince any one that it will make a fence.

Mr. Phoenix—As far as I have seen it, my impressions are favorable for a fence. Have seen trees 13 years old, 2 feet through and 35 feet high. Saw one row of perfect fence 20 rods long—laterals 15 feet. Has no doubt it will grow in any ground where corn will grow. Thinks it should be planted a foot apart in a single row.

Mr. Pike—Have seen trees that have been cut once in about three years, for forty years. It does not hurt them. You can plow within five feet of them and touch no roots. Thinks it valuable as post timber.

Mr. Gill has seen Mr. Smith's fence—it is a perfect fence. The trees are nine years old—planted about a foot apart—now some are five inches apart, some grown into each other. At four years old they make a pretty good fence. By cutting will make a good hedge—thinks it more valuable than Osage Orange. Saw it planted six inches to ten inches apart.

Mr. Galusha—Has a belt of it, 10 or 12 rods long. Has noticed the breaking of roots in plowing near it. Has not known any sprouts about the roots.

Mr. Bragdon offered the following resolution, which was adopted: *Resolved*, That we recommend it as suitable where shelter, timber and fencing is an object.

PREMIUM WHEAT CROPS.

Looking over the Report of the County Societies, as given in the State Agricultural Transactions for 1861, we note the following items in regard to some of the best wheat crops of that year. They show, though few in number, that the yield of this grain need not diminish if properly cultivated.

Broome Co.—Best acre, 35½ bushels.

Chenango.—Ira S. Holcomb, from 158 rods of land, harvested 37½ bushels. Sward land, with fair second growth of clover, plowed August 25, sowed August 29, two bushels seed rolled in slacked lime after soaking in vitriol water. Harvested the last of July.

Ira Crane, 326 rods of land, plowed and sowed the 10th of September, with two bushels Mediterranean wheat per acre, covered with harrow and rolled—put on 25 loads of manure before winter set in; yield 60 bushels—harvested in August and thrashed with a machine.

Lewis.—C. Wakefield, Lowville, 2847-60 per acre.

Seneca.—J. D. Coe, Romulus, 5 acres, 150 bushels.

P. Pontius, Mediterranean wheat, 27 bushels per acre.

Westchester.—First premium, 41½ bushels of 64 pounds per bushel, per acre—2d premium, 35 bushels, same weight.

State Society premium to S. Curtis of Clinton, Oneida county—2 acres, 84 bushels.

It should be necessary only to grow old to get more indulgent. We shall seldom see a fault that we have not committed ourselves.

ARTIFICIAL FISH BREEDING.

[Written for the COUNTRY GENTLEMAN, by WILHELM VON LAKE, Munster, Prussia, Secretary of the Provincial Agricultural Society of Westphalia.]

Within the last 15 years great efforts have been made by the French to stock their rivers and ponds with fish. Before this time the returns of the French fisheries had sunk very low. I will not entertain your readers to-day of the large establishments founded in France by the aid of the government for the artificial breeding and raising of fish. Interesting as those establishments are, they have been erected at heavy expense, and many mistakes have been committed. But I would turn your attention to the fact that with very little labor, and almost without expense, thousands of farmers might easily raise a large supply of the finest fish. This fact is well established by the last six years' experience.

The only species of fish, however, adapted to artificial breeding are the salmonia (trout.) Of all other kinds the eggs are too small and tender. The following extract from the letter of an extensive farmer, who has raised fish with perfect success for the last four years, gives an accurate description of the mode of breeding:

"In consequence of the low water mark in the dry summers of 1857-59 my trout fishery was almost annihilated. This circumstance caused me to try whether I might not fill my ponds and creeks again by artificial breeding of trout eggs.

"After several experiments I adopted last year the following method. From the beginning of November till the 7th of December, I caught in the creek fifty trout, which averaged seven-eighths of a pound a piece. These I put into a very small pond which can easily be fished. On December 7th, finding most of the eggs matured, I proceeded to the operation. By the great softness and the reddened color of the belly one can easily tell when the eggs are matured. The operation was carried on in the following manner: I take hold of a female fish behind the ears with one hand, and let another person hold her by the tail, then move the other hand several times gently towards the vent along the belly. The eggs then drop into a vessel filled with water to the height of a few inches. If the eggs go off easily and singly, this is a sign that they are well matured; otherwise the fish is thrown back into the pond. After the bottom of the vessel is covered by eggs from several female fish, I proceed in the same way with the male fish, until the water becomes of a milky appearance. Then with a hair brush I stir and mix all the eggs well, and let them stand so 5 or 7 minutes. Afterwards I remove the eggs carefully to the hatching place, and empty both eggs and water into the earthen vessel which has been kept in readiness. About 2,000 eggs can be hatched in one vessel. I put no sand nor gravel, nor anything else, into the hatching vessel. The latter, however, has small holes all around, through which a constant stream of water has to be conducted, so as to secure quick change of water without disturbing the eggs much. After this daily attention has to be paid to the height of the water, which must cover the eggs about 4 inches deep. The spoiled eggs, which can easily be discovered by their white color, must be removed carefully, or else they will infect the healthy ones; and whenever dirt has got into the vessel, it has to be removed through the holes by stirring the water gently with a fine hair brush.

"On January 20th the first fish hatched; I left them in the vessels until they had thrown off a small blister (or sac) hanging underneath, so they would freely move. Then I put a few of the young fish into the creek, the rest into a pond, in which there were no larger trout. The cleaning of the vessels of spoiled eggs and dead fish, has to be attended to very carefully; otherwise the whole may die.

The result was highly satisfactory. Out of 4 earthen vessels and one zinc vessel, 8,500 young fish were ob-

tained. In the former, the loss was only 15 per cent., in the zinc vessel, 35 per cent. The reason was, that by the pressure of the water, the afore-mentioned blisters were forced through the holes of the thin zinc plate, and the fish died in consequence. In future I shall use nothing but earthen vessels, which cost here 25 cents a piece.

"The place for the hatching vessels I have arranged in the following manner: Directly from the edge of a spring I have dug a narrow channel, at such a rate of decline that the stream will travel 60 feet per minute. The channel is not wider than the vessels, which are placed $\frac{1}{2}$ inch above its sole. The water then passes through the vessels four inches high."

The same man sold in the first days of January, 1862, 23,000 eggs to another breeder. The eggs were removed a few days previous to their hatching, packed in moss and carried by land transport on a wagon, a distance of 20 miles. Out of those 23,000 eggs, only 4,885 were lost, and the young fish have done admirably well, being at present 5 to 7 inches long. These had to be fed in their pond. But there is a place in Bavaria, called Fischstein, near Pottenstein, where large numbers of trout are annually raised without any feeding. In the ponds of Fischstein there grows a water plant called *Gara flexibilis*; on this a particular kind of snail lives, called *linea percher*, and on the eggs of the snail the young trout feed. We are now trying to transplant that *Gara flexibilis* to our northern ponds.

W. V. L.

[For the Country Gentleman and Cultivator.]

MANURING ORCHARDS.

EDITORS COUNTRY GENT.—Much has been said about manuring orchards; and top-dressing is the mode recommended. Now, is this warranted by experience? (I have reference to orchards that are not young.) In sandy soils, disposed to be leachy, it may have an effect, as the strength of the manure will be let down to the roots. But, otherwise, will this be the case? I think not. Soil has an affinity for manure. If applied at the top, the top soil will be enriched. But will it extend to the depth of the roots? I think no one can say it will, where the soil is a proper soil for fruit trees.

I have never applied manure to my trees, and they are forty-five years old, and are not excelled for thrift and good bearing. The fruit is of the best quality, and abundant. The soil is a deep, sandy loam.

I have seen trees manured, some plentifully, some slightly; I have seen little difference where old trees are concerned, and the soil is a general soil. Where the ground is loose, and tolerably fertile, I see little use—though some—in manure, as the roots in such soil take in a wide extent of ground, and of course according to their growth will be the growth of the tree. If they extend far, so will the branches if unmolested. As they extend, new soil is met, and new fertility constantly added.

It is this unexplored soil that affords food for the seeking mouths of the roots. Where the ground is less mobile, there must be a contraction of space, and consequently less supply of food,—for only the ground that comes in contact with the roots will benefit them. So the manured soil at the top is of no use to the roots, unless the ground is leachy and lets it down—as we before remarked—which is far from being the case with orchard soils in general, for of all soils, a tree soil is the most compact. I mean not the top, which the plow keeps mellow, but the root-pressed subsoil.

My plan of manuring an orchard (which, however, I have never practiced, only recommended,) is, to puncture the ground with a long tined fork, being as careful as possible of the roots, which will not be met with much at a few feet's distance from the tree, or say a couple of yards with old trees, and thence to the extremities of the roots. Then apply liquid manure.

F. G.

Starkville, N. Y.

FARM IMPROVEMENT.

Systematic labor—with an end in view and a careful consideration of the best means of reaching it—is sure to tell in the prosperity of those who direct and perform it. What end then, let us ask, has the farmer in view? An honest livelihood, an increase in means and comforts; success in agriculture—in a word, improvement in all that pertains to his farm. Let the farmer then carefully consider the best means of attaining this advancement, and employ his means and labor systematically therefor, and he will surely reach success. He must think as well as act—he must plan as well as perform. He must have distinct ends in view, nor be so much “the creature of circumstances,” but work steadily toward a mark—the mark of excellence in each department of his business. Better soil and crops, better stock, better fences and buildings, better orchards and garden, should be his constant aim from one year's end to another. To advance in them he needs and seeks also a better knowledge of all their capacities and requirements, and how best to increase and supply them so as to get the highest reward for his thought and labor. No day is so short and stormy but it has its employment—no evening but has its hour of reflective study on some point of his progress as a farmer and a man.

It is idle to think of progress without a lively interest in and devotion to the theme. Other trades and professions expect this, and they give their whole energies to the prosecution of their business. They do this or fail—and the farmer will fail who is not equally in earnest. We should see an immediate and astonishing advancement in our agriculture were the same enterprise put into it, which is employed in commerce and manufactures. The best farms—now gardens in the desert, almost—would be the rule, instead of the exception, in less than one decade of years.

What hindrances are there in the way? There are many—some inherent in the business, others in those that direct and perform it. Let our readers look about them and see the obstacles which they must needs overcome. Means and knowledge wanting, perverse soils and inconstant seasons, injurious insects and animal diseases, changing demands and unremunerative prices—these must be considered and changed or turned aside. What needs to be done is always far in advance of what can be accomplished. O, for the wisdom to choose that which can best advance us on our ascending way.

[For the Country Gentleman and Cultivator.]

COTTON-GROWING IN ILLINOIS.

Experiments made in rather a limited way, prove, beyond much doubt, that cotton can be profitably raised in the Middle States. In order to do this, the plants will have to be grown under forcing frames covered with glass, and then transplanted into the field after the season of frosts has passed. At first sight, this mode would appear expensive, but by the use of proper implements, cultivators and small plows, it is not so. Furrows for the plants are made by cultivators of peculiar shape, and then the earth heaped around them by another form of share (or teeth.) Some persons water the plants till they get well started, and during times of drouth, by using a long axletree cart, mounted with a cask, drawn by a horse, and when this plan has been carried out faithfully, very heavy crops have been raised, far exceeding the best

raised anywhere in the cotton region, and of the best quality. The seed which has done the best is the Green Seed of Mississippi. Some trials were made with black seed, which yielded a poor return, it is said. Cotton can be raised anywhere where tobacco can be raised, only set out the plants, and be faithful in keeping down the weeds, and give plenty of water. I have little to add to what I say above; there is no mystery about the thing, except it may be in the watering. The water is really a manure. You know perhaps on the worn out lands of the South, guano is much used and gives heavy crops. I send my respects. G. B. Princeton, Ill., Dec. 13, 1862.

[For the Country Gentleman and Cultivator.]

TOP-DRESSING IN AUTUMN.

It does not require a long memory to trace things far back, to note the time when it was a universal custom among farmers, if they had a few more loads of manure in autumn than they thought necessary for the corn crop of the following year, to draw these surplus loads to the meadow, and place them in small piles, to be spread the following spring. We well remember the vexations we experienced in spreading heaps, so disposed of,—for we always found more less frost to contend with, unless the spreading was delayed until time was required in other occupations.

Another difficulty we found in the way, was that of spreading it evenly over the surface. It would invariably fall from the fork or shovel where we did not wish to have it, and little accretions found in this way would often become hindrances. The crop would invariably show where the manure was,—always heaviest in rows with the spots where the heaps were in the centre, and growing lighter until we came to the centre of where the two rows met. This was not a trouble peculiar to ourselves. We have seen it developed in the fields of others. We have seen it in spring when the manure was recently spread,—and by the uneven appearance of the crop until it was taken from the land. We have seen the spreading of the manure delayed until the rains of spring were nearly past, so that it dried up by the cold winds, and have heard the very men who spread it, denounce top-dressing as a throwing away of manure.

We have since found by our experience, that the best way for us, is not only to spread in fall, but to spread from the wagon or cart, when drawing out. I choose this method for the following reasons: 1st. It is economy in time. It may, and probably does, take more time to spread a load from the cart than to drop it in heaps. Not so much more, however, as to balance the amount of time necessary to spread it. 2d. We get our manure more equally distributed over the ground by spreading from the cart. Standing on the load, the operator has a better chance to see the exact progress of the work,—to note thin spots, and avoid putting it on over thick; and instead of the bottom of a heap on the ground, to prevent an equal distribution, he has the smooth bottom of the cart, which is easily and as a matter of course scraped clean each load. 3rd. The rains of autumn and the snows of winter, prepare the manure for the food of plants, and place it within their reach, so that when spring comes on with its warmth, the object for which it was spread is daily and hourly in accomplishment.

There is another advantage in top-dressing in autumn. When one spreads ten or fifteen loads of manure on a piece of grass land, there is of course so much matter spread over the soil. In addition to the amount of fertilization that this contains, it increases the amount of earthy matter, and this matter is settled by the rains around the roots of plants or grasses, and thus affords them protection in winter, and adds to their strength in

PRICES OF WOOL FOR THE LAST TEN YEARS.

Tabular Statement of the Prices of Domestic Fleece and Pulled Wools, exhibiting the Variations of the Market during each Month for the past Ten Years.

		1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.
January, ---	Fleece,	45@65	40@62	25@45	31@46	34@65	24@45	42@72	40@62	35@54	48@55
	Pulled,	38 55	40 52	28½ 42	30 39	32 55	20 23	34 50	32 55	29 50	43 50
February, --	Fleece,	47 65	40 62	24 42	31 47	42 67	36 42	48 75	40 62	35 52	43 55
	Pulled,	38 54	40 52	21 36	34 40	33 43	25 32	35 67	35 52	28 48	37 50
March, ----	Fleece,	50 65	40 57	24 42	35 56	42 67	33 40	48 75	37 62	35 52	43 55
	Pulled,	42 58	40 52	21 36	30 43	33 62	18 33	35 58	39 52	28 48	37 50
April, -----	Fleece,	45 57½	40 57	25 45	35 55	42 67	29 42	45 67	36 60	35 48	42 56
	Pulled,	39 50	40 52	21 36	33 45	33 47	22 36	32 53	30 48	28 48	35 48
May, -----	Fleece,	47 65	24 57	25 41	35 58	42 60	33 42	40 60	35 60	30 42	42 52
	Pulled,	40 60	32 52	21 37	35 50	35 50	25 36	32 52	28 46	24 48	35 47
June, -----	Fleece,	40 60	33 53	26 43	27 40	40 65	37 42	40 60	30 58	37 41½	43 50
	Pulled,	40 52	30 42	23 37	35 42	33 43	25 36	33 52	25 47	29 38	37 48
July, -----	Fleece,	40 60	28 58	26 45	30 47	37 60	28 45	36 62	33 58	20 40	35 60
	Pulled,	40 52	28 52	24 37	12 41	30 45	26 37	30 50	30 47	28 30	25 53
August, ----	Fleece,	38 58	28 45	26 50	38 52	37 60	30 45	40 60	40 60	22 40	51 62
	Pulled,	40 52	28 42	24 37	32 42	35 55	22 38	30 50	34 48	22 37	35 55
September, -	Fleece,	37 50	28 45	27 47	36 55	43 60	32 45	38 62	40 60	28 40	60 66
	Pulled,	40 46	28 42	25 40	23 47	35 50	26 40	30 50	36 50	26 40	50 53
October, ---	Fleece,	45 62	28 45	27 50	37 55	30 45	32 60	40 65	30 60	32 52	55 72
	Pulled,	42 48	28 42	29 59	30 52	27 40	26 40	30 52	25 55	24 50	50 62
November, -	Fleece,	48 62	24 47	26 49	42 56	30 37	33 55	40 60	36 65	35 53	59 70
	Pulled,	42 52	28 45	25 39	37 46	25 32	32 52	30 50	30 55	36 50	56 65
December, -	Fleece,	40 62	28 45	31 44	38 62	25 64	40 71	40 62	30 60	46 52	60 69
	Pulled,	40 52	28½ 42	31 39	34 48	20 30	33 47	32 52	25 50	22 50	55 70

summer. While we hold that manure or compost drawn out in autumn should be spread when drawn, we are in no way averse to hauling out and spreading manure in winter or early spring. We have practiced both with good success. But if drawn on in spring, it should be done early, to take advantage of spring rains. If put off until these are passed, a loss that no farmer ought to afford or suffer, will be the result.

We have a good opinion of top-dressing grass lands, even though the best fermented manures cannot be afforded. Composts are good, and in some instances we have known the effects resulting from their application to continue longer than was shown by more expensive manures, which was probably owing to the greater length of time necessary to bring all their parts into a condition to feed the plants. Another result from their application may be, that they are applied more freely; consequently a larger amount of undecomposed material is placed around and over the roots, thus furnishing clothing as well as food, which is an item of equal importance in our northern climate. WILLIAM BACON. *Richmond, Jan. 1, 1863.*

PACKING APPLES FOR FUTURE USE.

The Farmer's Club of New York, at their meeting on the 9th ult., proposed the subject—"How to pack Fruit to keep." Oats in chaff and bran were mentioned as being good. The subject was then dropped, to be called up at some future time.

My experience for the past two years may be of some advantage to those who are willing to try it, if the article is within their reach.

I obtain basswood turning shavings from a Broom-Handle factory, well seasoned, and use them as oats are used in packing eggs for winter use. For spring and summer use, I do not intend to have them touch each other, or the barrel in which they are packed. I pack a few layers, then put in a loose head and press them down with my own weight, and thus continue till full; head up the cask, and leave it in the barn or open shed, until the mercury falls to 10 degrees to zero, then remove them to a dry cellar or some place protected from the extreme cold.

A flour barrel will hold about 1½ bushel put up in this way. The fruit remains clean and dry, and if any decays it appears not to effect others; neither do the turnings mould or adhere together; consequently the turnings are equally good from year to year by exposure to the air to dry out what moisture they may contain.

This last fall I packed in this way a few barrels Fall

Pippins, and thus far, 6th Jan., they remain as fresh as when packed. I have seen Pound Sweets in the month of June, kept in this way, as fair and sound as when picked from the tree, and the change in the flavor was trifling.

Fabius, N. Y., 1863.

A. H. CORBIN

Corn Bread.

One quart meal, one pint of flour, one pint sweet milk, one pint sour milk, one tablespoonful sugar, one teaspoonful saleratus, and one teaspoonful salt. Bake two hours in a slow oven. Eat warm or cold. Bread made after this recipe is good to take. MRS. M. MARIA BRIDGES. *Johnsonville, O.*

The Springfield (Mass.) Harvest Club, at a recent meeting, were regaled with a *dodger* that was universally praised. A committee of one was appointed, with a private secretary, to wait upon the skillful hostess; they returned with the following report:

RECIPE FOR A SINGLE CAKE.—Two table spoonfuls Indian meal, 2 table spoonfuls molasses, 1 tea spoonful saleratus, 1½ teacups buttermilk. The whole to be thickened with canal or rye flour till of the consistency of thick paste, and then baked about half an hour. Of course cream and eggs improve the mixture, if one's palate is educated for such delicacies.

[For the Cultivator and Country Gentleman.]

To Make Leather Water-Proof.

The following recipe for making boots and shoes water-proof, is the best thing that I have ever tried. It also improves the leather, and is also the best thing for rough or sore hands, caused by binding wheat or husking corn:

Take one ounce of the balsam of Copavia and one ounce of beeswax, melt together and apply warm; rub it in with the hand. It has only to be tried to be appreciated.

C. JUDSON.

Freezing Cider to Refine it.

Russet apples, as is well known, make the best cider, but Mr. Weld of West Roxbury, according to the Boston Cultivator, makes cider from Baldwin apples equal to Russet, by allowing it to freeze partially, and then drawing off the liquid balance. Three barrels of Baldwin cider reduced in this way to two barrels, afford good cider, and by reducing still farther, it is farther improved in strength and quality. Mr. Weld has some two-thirds reduced, kept unchanged, which is eleven years old.

[For the Country Gentleman and Cultivator.]

TOBACCO CULTURE IN CONNECTICUT.

Preparation of the Seed Bed.

We have generally prepared the seed bed in the fall, by heavy manuring, plowing in deep, and leaving the bed in a rough state till the following spring. As soon as the frost is out of the ground, spade the bed over, for the purpose of bringing the manure to the surface and thoroughly mixing with the soil, at the same time clearing out all roots of weeds and grass.

After leveling the bed we make the soil as compact as possible, either by rolling with a heavy roller or tramping with the feet. We then rake the surface lightly with a fine tooth garden rake, and sow the seed, raking lightly to cover it, and then roll or tramp it again.

The seed is so very small, being smaller than mustard seed, that it is better to mix it with dry muck or ashes before sowing, as it is more evenly distributed on the bed. We sow about as thickly as in sowing cabbage seed in the garden. The bed is treated precisely as a bed in the garden, in weeding, &c.

When the plants have three or four leaves, which should be about the middle of May, on a rainy day we sow on about 2 quarts of fine guano per square rod, being particular to sow on the guano while it rains, for if the sun comes out soon after it is sown, there is danger of burning the leaves.

Preparation of the Ground.

In preparing the ground for setting out the plants, we think it best to harrow in the manure, which should be fine compost. We use from 40 to 60 ox-cart loads per acre — (the ox-cart load is about 35 bushels.)

We use Shares' Coulter harrow for the purpose of thoroughly incorporating the manure with the soil.

The land being manured and well harrowed, we set the teeth of our marker $3\frac{1}{2}$ feet apart, and mark it out one way. We then raise a ridge about 6 inches high, by turning two furrows together with a one horse plow. The ridges being made, we mark across them making the marks $2\frac{1}{2}$ feet apart.

We generally have used some special manure in the hills for the purpose of giving the plant a start. We have tried Peruvian guano, about 300 to 600 pounds per acre; castor pomace, from 300 to 2,000 per acre, and the Lodi Company's poudrette 2 to 4 barrels per acre.

The guano and castor pomace it is necessary to sow on the marks, or in a furrow made for the purpose, before making the ridges (thus being directly over the guano or pomace,) as so large a quantity placed in the hills would destroy the plant.

We like the poudrette best, as we can place that in the hills without injury to the plant. We also think the poudrette gives the best tobacco.

We make the hills at each intersection of the marks, with a hoe, spitting them lightly, thus making the hills $3\frac{1}{2}$ by $2\frac{1}{2}$ feet.

We set the plants from the 5th to the 15th of June, (choosing, if possible, a rainy or damp day for the purpose,) though I have seen very handsome crops raised set as late as July 4th.

Insects Injurious to the Crop.

Some years we have been greatly troubled by cut worms, for which reason we have been in the habit of plowing in a green crop, either rye or clover, which feeds the worms, and consequently they do not eat the tobacco so badly.

The cut worm usually finishes its work of destruction by July 4th, up to which time, when a rainy day comes, all hands turn out and set over the plants missing.

The green, or tobacco worm proper, commences operating about July 1st. We often find the eggs (of the miller, which produce the worm) on the under side of the

leaf; they are about the size of a large pin's head, and a light pea green color. The miller flies by night, and is rarely seen. I have never seen but two in the seven years we have raised tobacco. The head looks very much like an owl's; the body is grey in color, about $1\frac{1}{2}$ inches long, and the wings, when spread, extend about 3 inches from tip to tip. The green worm is a constant source of annoyance from its first appearance until the tobacco is cut. We sometimes have to go over the ground every day for worms, though in some seasons once a week will suffice.

Cultivation, Harvesting, &c.

The tobacco will not grow much until it is hoed, as the ground becomes hard, and must be well stirred to give the root a chance to start. We use Nourse, Mason & Co.'s horse-hoe for cultivating between the rows. There is an advantage in setting the plants on a ridge, for they are not so apt to be covered with dirt by the horse hoe, or by a heavy shower. We generally hoe as often as we can, but rarely more than three times, unless the ground is very weedy, which should not be the case in good farming.

The cost of production varies greatly with the seasons, as when we have a dry season we have to water the plants and cover them with a little cut hay, to prevent the sun from scorching them. The past season was very favorable, there having been so much damp weather about setting time that we did not cover or water a plant on $4\frac{1}{2}$ acres.

After the tobacco is set the labor is about double what it is on corn. I have never made an exact calculation of the expense of raising tobacco, but for myself I can say I would rather take care of an acre of tobacco than two acres of corn. The land which will produce 2,000 pounds per acre of tobacco, will not produce over 70 bushels of shelled corn, which shows a large difference in favor of the tobacco.

About the middle of August the tobacco is in blossom. We then go over the field and break off the tops, taking off about 4 or 6 leaves with the top, according to the size of the plant.

In about a week a sucker starts at the junction of each leaf with the stalk. These must be taken off before cutting, as, if left on, it is very inconvenient to handle the tobacco.

We generally begin cutting about the 10th of September, for by that time most of it is ripe, and if it stands after it is fully ripe, it will often rust. The rust is in spots on the leaf, and injures the quality.

We commence cutting in the morning after the dew is off, and let it lay for a while to wilt, being careful not to let it lay long enough to get sunburnt. After being wilted enough to handle without breaking the leaves, it is placed in a cart or wagon and drawn to the curing house, which is generally a shed or rough building, which may be shut up close, or opened to let in air. The best buildings are about 24 or 36 feet wide, and as long as convenience may dictate—36 feet allowing of three 12 feet rails across the building. We hang from 26 to 35 plants on a rail, according to size.

The but of the stalk is placed against the rail, and the twine passed around it, the twine being crossed on top of the rail between every two plants, as they are placed on alternate sides. The rails are about 20 inches apart, allowing room for a good circulation of air, which is absolutely necessary, as without it the tobacco will sweat on the poles, and is lost.

In about six weeks or two months the tobacco is sufficiently cured to strip. After it is well cured, the first damp day we open every door and window to let in the air, for it is necessary to have it damp to keep it from breaking.

When it is taken from the poles it is placed in a pile, a double tier, the tips lapping about 6 inches or 1 foot, butts evenly laid and closely packed to prevent drying.

If not damp, it may lay so for several days without injury, but it requires close watching to prevent it from heating. We divide it after stripping, into three kinds, called wrappers, seconds and fillers. The wrappers are the choicest leaves, the seconds have many imperfect leaves, and bring

about half the price of wrappers, the fillers are the poorest leaves, and bring about one-third the price of wrappers. When the leaves are stripped from the stalk about a dozen leaves are put together and a leaf coiled around the butts, which makes a hand. As a general thing the more particular we are in assorting, the better price we get. I have seen a really nice lot of tobacco sold for a small price for want of care in assorting.

I think we have averaged 15 cents a pound for wrappers, 7½ cents for seconds, and 5 cents for fillers during the seven years we have raised tobacco, and the weight would average 1,500 pounds per acre, though we have raised 2,200 pounds on one acre, and sold it for 20 cents per pound for the first quality.

In such a yield as the above there would not be over 300 pounds of the first and second qualities both together.

After stripping it is evenly packed in piles, (keeping the various qualities separate, of course,) butts out and tips lapping a very little, three or four inches perhaps. We do not case it, but sell to dealers who do. The case is made of merchantable soft pine boards, and is about 3½ feet long by 2½ wide and 2½ deep. About 400 lbs. of tobacco is put in each case, by means of a screw. In a few days after casing the sweating process commences. During some stages of this process, a person not acquainted with it, were he to examine the tobacco, would say it was worthless, being perfectly soft and apparently rotten. I have often seen the outside of the case so hot as to draw the pitch from knots in the boards.

The tobacco must go through this process before it is manufactured, to give it the necessary finish. This year we shall probably get a higher price than ever before. I have already heard of 25 cents per pound being offered for all three qualities.

I believe there is, comparatively speaking, but little tobacco raised in this State, out of Hartford county, the Connecticut river and Farmington valleys being particularly adapted to its production. JOHN C. ROBERTS.

Tariffville, Conn., Dec., 1862.

[For the Country Gentleman and Cultivator.]

The Way to Shingle a Leaky Roof.

EDS. OF CO. GENT. AND CULT.—Your correspondent, J. M., page 412 of CO. GENT. for Dec. 25, inquires how he may reshingle a roof without removing the shingles that are now on the building.

Having had some little experience in rendering leaky roofs water-tight, I trust that I can furnish the information that J. M. desires; and if the work be performed according to directions, no water will ever find its way through the roof, until the shingles are pretty well worn-out.

In the first place, if there is any moss on the roof, let it all be scraped off, and let the roof be swept off clean. Now commence at the top of the roof, and apply a heavy coat of coal tar to the old shingles. The shingles should be dry; and in cold weather, the tar must be warmed.

The most convenient way of doing this, is to have an iron kettle of live coals on the roof, and keep the tar in a tin pail that will contain about ten quarts. This pail can be kept on the fire a portion of the time, and by this means the tar can be kept thin enough to flow readily even in cold weather.

The workman will need a whitewash brush in one hand, and a dipper that will hold about one pint, in the other hand. Pour on about a pint, and spread it with the brush as quickly as possible. There is but little danger of getting the tar on too thick.

Now procure good shingles—whether the roof be flat or steep—and lay them directly on the shingles that are on the roof; and use sixpenny nails, instead of ordinary shingle nails, unless the roof-boards should be of hard wood. Should they be of hard wood—of sugar maple, beech, or oak,—large shingle nails would be preferable to sixpenny nails.

A skillful workman will be able to decide, very readily, whether sixpenny nails are necessary or not. If large shingle nails will draw the shingles down close to the old shingles, and hold them, it will not be necessary to use sixpenny nails.

How Far to Lay Shingles to the Weather.

The very best of shingles will not make a tight roof, if they are not properly laid; while the same shingles would make an excellent roof when they are laid as shingles should be laid.

The correct rule for laying shingles of any length, in order to form a roof "leak-tight," is to lay the courses less than one-third the length of the shortest shingles. For example, when shingles are eighteen inches long, many of them will not be more than seventeen inches in length. Therefore, five inches is all that the courses will bear to be laid to the weather, with the assurance of forming a good roof. The shingles must be three thicknesses over the entire roof; and if they are not three thicknesses—if now and then a shingle lacks a quarter or half an inch of being long enough to make three thicknesses—there will in all probability be a leaky place in the roof at such points. Moreover, when the lower courses lack half an inch, or even a fourth of an inch of extending up far enough to receive the rain from the outer-most course, in case the middle-course were removed, it would be just as well to lay them seven or eight inches to the weather, as to lay them only five or five and a half inches.

Again, many shingles are only sixteen inches long; and many that are sold for sixteen inches long, will hardly measure fifteen inches. In this case, if the roof be rather flat—say about one quarter pitch—four and a half inches is as far as they should be laid to the weather. In case a roof were quite steep, it might answer to lay the courses four and three-quarter inches to the weather.

When farmers have their buildings erected by the job, they should give their personal attention to this subject, and see that jobbers do not lay the courses a half inch too far to the weather.

There is another very important consideration, which is too frequently overlooked in shingling, which is, "breaking joints." Careless workmen will often break joint within half an inch of each other. When the joints of the different courses come so close together, the roof will most certainly leak. And why should it not? There is nothing to prevent it during a heavy rain. Unless a roof is steeper than a quarter pitch, the joints should be at least one and a half inches apart.

Let a good coat of coal tar be applied to the second course of shingles—if the water which falls on it is not to be saved—and I will guarantee a good roof.

S. EDWARDS TODD.

Superphosphate of Lime for Tobacco.

In an article on manures for tobacco, in the Genesee Farmer, the editor expresses the opinion that superphosphate of lime may prove the very best manure for this plant at the north, and gives the following directions for applying it:

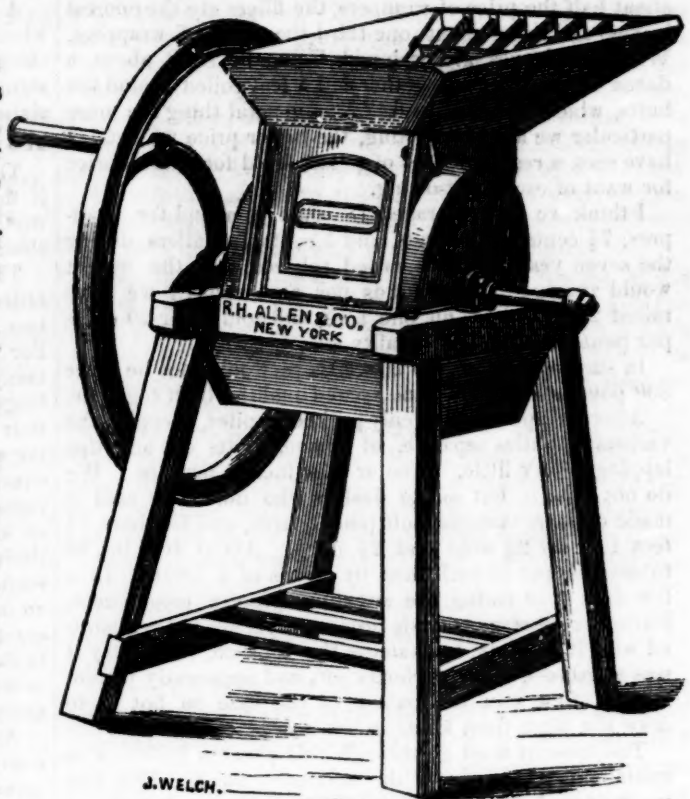
We would use it in this way: First, after preparing the bed for the seed, scatter over it broadcast from two to three pounds of superphosphate per square rod; rake it in and sow the seed. It will not hurt the seed.

The superphosphate will hasten the germination of the seed and the growth of the young plants. It will develop the fibrous roots of the plants, so that when they are pulled up there will be more soil adhering to them, and they can be transplanted with less uncertainty. In transplanting we would apply the superphosphate at the rate of 300 pounds per acre, in the hills. It will not hurt the roots of the plant if put in the hole with them, but it will be better perhaps to mix the superphosphate a little more with the soil, though the great value of superphosphate consists in giving the plants an early start, and for this reason it should be near the roots during the early growth of the plant.

THE ENGLISH ROOT CUTTER.

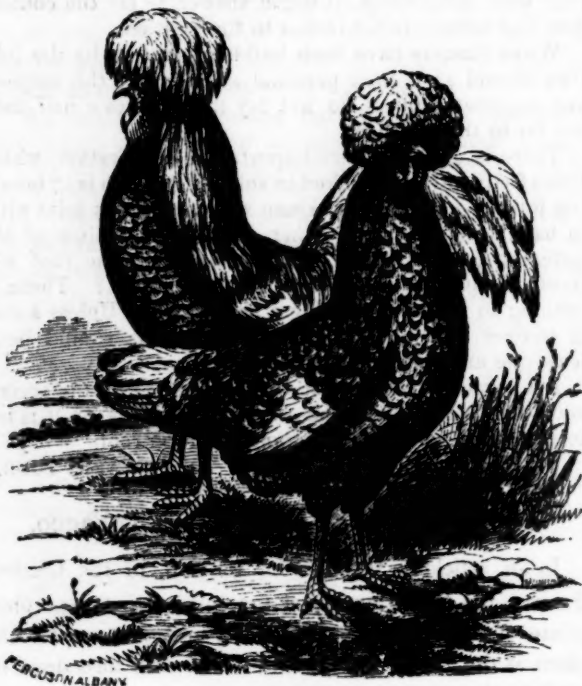
At the suggestion of a number of gentlemen growing large quantities of turnips and mangolds for feeding purposes, Messrs. R. H. ALLEN & Co., New-York, are now making a Root Cutter similar to the most approved English machine, with some modifications or improvements of their own. We have seen one of these implements at the farm of E. G. FAIR, Esq., and finding on our last visit that it had succeeded so well and satisfactorily after continued use for a long time, we were induced to apply to the Messrs. ALLEN to have an engraving of it prepared for the COUNTRY GENTLEMAN. This has now been done, and the machine is very well shown in the accompanying figure.

The bars in the hopper allow dirt or stones among the roots to drop out between them, while the roots pass down against knives attached to a revolving cylinder, in such a way that when the crank is turned in one direction the roots are cut in large slices for feeding to cattle, and when turned the opposite way they are cut smaller to suit sheep or calves. In either case the shape given to the pieces is adapted to preclude any danger of choking. We are assured by those who have used this machine that, although the price (\$35,) is apparently high, it is so well and durably made, and does its work so easily and thoroughly as to be considered a better investment at this cost, than it would be to pay a smaller price for an ordinary cutter.



J. WELCH.

ENGLISH ROOT CUTTER.



[For the Country Gentleman and Cultivator.]

THE GOLDEN CRESTED FOWL.

The Golden and Silver crested fowls are, the one a gold color, the other white, spangled with black; the tuft or crest as in the black Polish, should be large and compact. The more completely the color in the tuft can partake of the character of feather in the rest of the bird the better. Some persons admit white in the crest of the Golden, but we cannot help thinking the mixture a great fault. Others would like to see the feathers of the tuft laced. This, however, is very difficult of attainment. The marking of the bird is a black spangle on the golden or silver ground color. The wings are barred, and the best have lacing on the wing coverts. In Richardson's work on Poultry, these fowls, or a variety of them, are figured with immense top-knots, covering their heads and eyes, nearly blinding them; they have

also black beards hanging from under their bills and muffs on their cheeks. This we consider objectionable and no addition to their beauty.

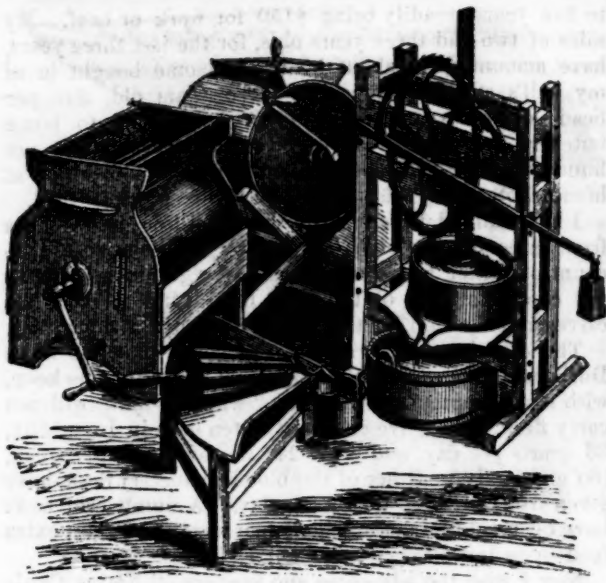
The hen of this beautiful variety which our figure illustrates, is one of the most splendid and attracting-looking birds of her species, being regularly spotted or spangled with one spot or spangle only of clear black upon each clear white or yellow feather, all over her body, from her head to the end of her tail.

They are beautiful looking fowls in the lawn or around the cottage, and like all the crested varieties, are prolific layers, and although not as large, are as good a table fowl, in quality and juiciness of flesh as the Dorking, and come quite as early to maturity; but their great excellence is in their egg-producing qualities. In fact, they are entitled to rank among the very best of egg producers; the superiority of the Crested Hamburg hen does not consist so much in rapid as continued laying. She may not produce as many eggs in a month as some other kind, but she will lay more months in the year than probably any other variety. The hens, if young, continue to lay nearly throughout the year; but the eggs are small, weighing about one and a half to one and three-fourths ounces each. The golden spangled hen is said to give the high average of two hundred and forty eggs yearly. As they are such abundant layers, they seldom have time to sit.

The chickens are healthy, strong, and require no unusual care; and we may add, that the full grown fowls are remarkably healthy. At from five to six months old they are fit for table use, and though small, their bones being formed in the same proportion, they yield a fair quantity of meat, which is white, tender and well flavored.

As an ornamental fowl they are equalled by few—surpassed by none. Birds of one year old have never attained their full beauty; and here, we may observe, that both sexes of all the varieties continue to improve in appearance after each month until they are three years old. C. N. BEMENT.

MICHIGAN AG. COLLEGE.—T. C. Abbott, Esq., Professor of history and English Literature in this institution, has been unanimously elected its President.



[For the Country Gentleman and Cultivator.]

CHEESE FACTORIES.

In accordance with your request, I offer your inquiring correspondent, and your readers generally, some facts respecting the new and excellent institution—the CHEESE FACTORY.

So far as the present writer is informed, the credit that belongs to the pioneer of this business at least in this great cheese district—the *cheese district par excellence* of the United States—the valley of the Upper Mohawk, belongs to Mr. JESSE WILLIAMS, near Rome. His factory is located upon a little tributary of the Mohawk, and consists of a shanty where the cheese is made, and of a long two-story curing-house. Here he has been in the habit of making up the milk of some 500 cows. Subsequently, about three years ago, a similar establishment was started on the opposite side of the river, a little nearer Rome, at a place called the Ridge Mills; and about the same time one, two or three miles from Holland Patent in this county. The past summer, two very large ones have been erected, close together, near Oriskany on the Mohawk, about half-way between Rome and Utica; in one of them, Mr. TANNER's, the milk of 900 cows has been made up; and in the other, Mr. WILCOX's, the milk of 700. Mr. Jesse Williams, already spoken of, has had charge of the former of these Oriskany factories, and his success can be made more certainly apparent to your readers, when it is mentioned that the dairy was sold in New-York at 14 cents for the bulk of the dairy, and *seventeen* cents for the large cheeses, the aggregate weight of which—the large cheeses—was 7 tons; seven of them weighing 1,000 pounds each. These were beauties, being just as perfect, when the writer saw them the last of August, as any other cheese in the house, and all were as smooth and square upon the top, as if turned in a lathe from some hard and perfect wood, and yet as elastic and yielding, under the pressure of the thumb, as a good cheese should be, for I can think of no simile.

A good many factories are building this winter—one at Whitesboro, by Deacon WATKINS and his son-in-law Dr. WIGHT, in which Mr. Williams also has an interest—one at Stittsville, near Holland Patent—one in Litchfield, Herkimer Co., by the celebrated cheese-maker Mr. ALANSON FISH, well known as a considerable writer on cheese-making.

Having said thus much about Cheese Factories, suppose

I add a word about the essentials of the institution itself. The prime essentials then, are, 1st, milk, and 2nd, cold water. Your cheese factory must go where these are—all the rest can be procured anywhere.

Your factory, which will be a cheap board building, will be built upon a sidehill convenient to the producers of milk, and you will conduct into it a copious supply of spring water, which, flowing around the vats, preserves the night's milk. You will also provide yourself with a steam-boiler, adapted, with proper connections, for throwing the steam into the spaces around the several vats, and into the various necessary vessels where water can be rapidly boiled for cleansing purposes. You will also provide proper pipes for conveying away the whey into a wooden cistern where it stands long enough for the cream to rise upon it. By means of further pipes, it is conveyed away from the bottom of this vat to the animals, pigs or calves, destined to consume it.

The cream will only have to be skimmed once in the season, and is then tried and the grease sold to the soap-boiler. Of course it is understood that the grease for the daily oiling of the cheese is derived from the same source. Your cheese vats are of the ordinary structure, minus all the stoves, cocks and contrivances which distinguish the different styles of these useful articles in the ordinary dairy. Here all your heat is derived from the steam of your steam-boiler. In fitting up the pipes go to the nearest city, if it is 100 miles distant, and secure the services of a gas-fitter, who will make all the connections with iron gas-pipe, much cheaper and better than with lead pipe. Your presses are simple screw-presses like the book-binder's press. Simplicity and strength with plenty of man power, which you are supposed to have, are preferable to the more complicated and weaker, though mechanically more powerful presses in use in smaller dairies.

You will build near your factory, but by no means in the same building, for the steam and dampness, to say nothing of risk of fire, render the two processes entirely incompatible under the same roof—your cheese house, so that it can be easily lengthened at pleasure, and place at its entrance a Fairbanks scale.

Your milk you will procure in two ways. The larger dairymen in your neighborhood will associate themselves with you, drawing all their milk to you, and paying you a certain price, say one cent per pound and all the whey, for your labor, and either selling the cheese with yours, all in a lump together, which is preferable, or drawing away their share in the fall.

You will buy the milk of the smaller producers at so much per gallon. Our factories about here, have very unwisely introduced what they call "beer measure," or a measure of 282 cubic inches, which they call a gallon, instead of the legal gallon of 231 cubic inches. It is difficult to see the use of this arrangement, while it tends to produce confusion. While apothecaries are about abandoning their peculiar weights and measures, and conforming to the avoirdupois ounce and pound, it seems absurd that milk buyers should endeavor to establish a new gallon, borrowed from England, where it has long since been abolished.

The best plan for drawing the milk is to hire one or more persons to do all the drawing, receiving all the milk in the various barn-yards, and drawing it for so much per cow. The cans are much larger than milkmen's cans, and are provided with cocks at the bottom. The drawer drives up to the upper side of the factory, standing as before

stated, upon a side-hill; the milk flows from the can through a pipe into a measuring can, where it is gauged and entered in a book to each once's credit; from thence it flows into the vats with all the rest, and is made into cheese. Every day's production of cheese is weighed as it enters the curing-house, and also entered in a book. You have the data now for calculating each man's share of each day's product, which of course is also entered in a permanent book, kept in a place safe from accident or fire.

Utica, Dec. 8, 1862.

W.

P. S.—Suppose your Junior should book himself for a visit to our cheese factories some day next June or July. He will find much to interest himself and your readers, and the writer hereof will do himself the honors of the cicerone. [This invitation is accepted with thanks, if our correspondent will kindly apprise us when the right time comes, as regards his own leisure and the operations of the Dairymen. Eds.]

[For the Country Gentleman and Cultivator.]

Durham vs. Native Cattle—Sheep Fever, &c.

EDITORS OF CO. GENT.—A sheep fever has been raging for some time past in the East and in the West, but has now become somewhat less violent. I suppose there are some who have not sacrificed their cattle for the purpose of filling their places with sheep at about equal prices per head, and ordinary sheep at that. Too many, however, have bought culls that were not formerly considered worth wintering, and were sold for pelting at from 50 to 75 cts. each, but which this year were bought for wintering at from \$3 to \$6. Such sheep are mostly bought by new beginners in sheep husbandry, and when they see how small a per centage of their number live to climb May hills and come up to shearing, and how diminutive are their fleeces, they will then think they have paid too dear for the whistle.

Keeping good sheep, good cows, good oxen, good cattle for beef, and keeping well, has always been a business that paid well and gave good profits—(sheep requiring the best keep of all)—and I doubt not that it ever will. Let me advise brother farmers to keep a proportion of all of the above named animals of the best breeds, and to keep them well. The products of these animals will ever fluctuate, and that which sells lowest one year will be sure to be in the ascendant in three years. By this mixed husbandry you will be sure, when it rains pap, to have a dish to catch it.

Butter 20 to 25 cts. per lb., cheese 10 to 12 cts., and beef 6 to 7 cts., with a prospect of advance, does not look discouraging for this kind of produce, if wool is at present worth from 55 to 65 cents. Now when this cursed war is ended, for end it must, and wool is about one-half present prices, and our new shepherds have summed up their losses, they will have to confess that they have paid too dear for the whistle. They may then have the feeling of John Randolph of Roanoke, who said that he was ever ready to go out of his way to kick a sheep. I believe the saying a true one, that the Yankee people like to be humbugged, and if others will not do it, they will do it to themselves.

Now for my experience in cattle breeding. Seven years ago I purchased one bull and four heifers of good Herd-Book Durhams, at high figures. The services of the first bull for three years, to other cows than mine, would reduce the price on the whole to the price of native cattle. My herd at the time of the purchase and since, has averaged 60 head. At the purchase of the five Durhams, the rest of my herd were good and large for natives. I have bred from blooded bulls, and bred up as fast as possible, and have now twenty full-bloods, the remainder grades, none less than half-bloods. The Durhams for disposition are very quiet, gentle, very tractable, easily broken in to the yoke and to milk, and for working oxen the grades are superior. The oxen at four

to five years, readily bring \$150 for work or beef. My sales of two and three years olds, for the last three years, have amounted to about 50 head—(some bought in of my bull's stock)—average of three years old, \$45 per head—of two years old, \$30 per head—sold to home butchers and killed in July—price of beef about \$5 per hundred. One half-blood heifer two years old, killed at home September, 1861, weighed 845 lbs. on grass feed.

I have milked 12 cows for the last three years—ages from three years to eight. I find by reference to the account of butter and cheese made, the produce amounts per cow, exclusive of the milk for raising most of the calves and the slop for the hogs, to \$42 per cow per year.

The case is general among the cows, that the more Durham the more flesh they carry, all with the same keep, with one exception. "Ida May," when in milk, will not carry flesh. She gave on a trial of ten days in June 1861, 36 quarts per day, and made 24½ lbs. of butter per week, (on grass only.) Other of the bloods that carry flesh, have given from 24 to 28 quarts per day. A number of cows have been sold to the butcher when in milk without extra feed—one last week, live weight 1,800 lbs.

Now I wish the advocates and keepers of Native Cattle to come up to the mark, and show their record for working cattle, milk and beef, and see how it compares, and if the profits come about up, we will say nothing about which looks the best on one's premises.

I have seen statistics recently as to the price of keeping sheep in each State in the Union. Vermont is put the highest—at \$1.30 per head per year. This price may be near the mark for three and four pound shearers, but for the six to nine pound shearers it costs double that sum, and more profit at that.

H. W. LESTER.

Rutland, Vt., Dec., 1862.

[For the Cultivator and Country Gentleman.]

Fence for Lands Subject to Overflow.

I have introduced and tested to my entire satisfaction for about nine years, a fence to withstand the floods to which a large creek is frequently liable, and had, previously to the adoption of this fence, caused much loss of rails from the worm fences in the bottom lands. I now lose none—seeing which, my two nearest neighbors have adopted it. The fence is made upon the principle of the rail cow racks for feeding straw or hay out of doors, in such common use in our mild climate in Kentucky. For the benefit of those who have not seen such cow racks, I would say they are made by planting a row of posts in the ground, about 18 inches deep, and projecting above ground about the same distance, and about 8 feet apart, with rails stretched from post to post and supported by them; the course of rails in their turn supporting the fence made across it in the form of an X, with other rails buried in ditches about one foot deep at one end, the other end rising in the air; the V formed above the point of support, being the receptacle for the straw or hay in the case of the rack, and for logs as weights in the case of the fence. The rails for the fence should not be more than about 6½ feet long—if 9 or 10 feet long, they make the fence rather top-heavy, and inconvenient to place the weights in. When the rails rot off at the surface of the ground, they can be used again once or twice. This fence is also a most effectual barrier against breachy stock; an active dog is very much troubled to get over even when the picket is somewhat imperfect. For pigs it must be made close at the bottom.

T. B.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Hams.

I send you an effectual and excellent mode of curing hams, which I have proved by actual experience:

For 100 pounds of meat, take 4 pounds fine salt, 2 ounces saltpetre, and 4 ounces brown sugar; mix well together, and rub upon the fresh sides of the pieces until they are covered. The hams should be laid on boards, and the rubbing repeated daily for several weeks, or until the meat is ready for smoking. H. T. D. Doylestown, Pa.

MANAGEMENT OF HOUSE PLANTS.

It is an easy thing to *keep* plants through the winter, but not so easy to keep them *well*. Many persons keep them too hot, so that they grow spindling, and speedily become unhealthy, and infested with insects. Many keep the soil too wet for the health of the plants, but very few err in the opposite direction and do not water enough, although there are some who fail in this way. Some plants suffer for want of sunlight, others for want of fresh air. In short the causes to which the want of success in growing plants in the house is due, are numerous, and frequently difficult to overcome, but in most cases it is a want of knowledge, which is at the bottom of the difficulty.

The temperature of the room should vary according to circumstances. If the sole object is to preserve the plants through the winter, the temperature need never be above 45 deg., if possible to keep it so low; neither should it be allowed to fall below 40 deg. If it be desired to have the plants in bloom, a warmer temperature is necessary, say 60 deg. by day, and 45 or 50 deg. at night. When plants are kept at this temperature, more frequent waterings and syringing will be needed than when they are kept cooler.

If handsome plants are desired they must not be crowded together, or they will run up *lanky* and bare of leaves, except at the top. If beauty of form constitute any part of the design of the grower, the plants must have abundance of room, and be kept as near the light as possible. In green-houses kept by professional florists, where room is scarce and flowers only are desired, the plants are crowded together as closely as they can stand, but an amateur should never have more plants than can be properly cared for, and a fine, bushy, well proportioned plant is a "thing of beauty," even without flowers.

Overpotting is a common evil. In healthy plants the roots should always be found extending to the pot, and they never need a larger pot until this is the case, which may be easily ascertained by turning the ball of earth out of the pot; if there is a net-work of roots around the ball, the plant may be shifted into a pot one size larger. If it be desirable that the plants should flower early they may be kept in quite small pots, by which the growth is checked, and they are thrown into bloom. When in such small pots, however, they cannot obtain as much nutriment as is necessary, and an occasional watering with guano water or manure water will be of service.

G. B. H.

[For the Country Gentleman and Cultivator.]

WINTERING BEES.

To winter bees successfully in our cold northern climate, is a question of great moment with the apiculturist. There seems to be almost as many ways recommended as there are bee-keepers. Having had several years' experience in this business in Northern Vermont, I have arrived at this conclusion, that bees should have for their welfare in winter, a *dark, cool, dry, still* place, where the temperature is even as possible, and about *five* degrees above the freezing point, or 35° Fah. In this temperature the bees will remain very still and quiet, and will require but little honey to what they would if kept in a warmer place.

In the first of my experience I was advised to put my bees into a tight, dark room in the house. I did so, and the consequence was, I lost many of my bees before spring; during the warm days in the winter the bees would become very lively, and crawl out of the hives upon the floor, and if there was a ray of light, they were sure to find it, and would there perish; if shut into the hives, they would create such a heat in trying to get out that they would melt their comb and become drowned in their own sweets. This I found was owing principally to the outside temperature being so changeable and the want of proper ventilation.

Wintering bees out of doors, as practiced by a large propor-

tion of amateur bee-keepers, is always attended with bad results, as nearly one-half the stocks are frequently lost, and those that are not are so reduced in number, that they will not swarm the coming season, there not being bees enough to permit of it; consequently are worth but little to their owners. When bees stand out of doors, every warm day during the winter they are inclined to fly from the hive, and thousands of them get chilled and are lost, and where there was a peck of bees in the hive in the fall, by spring there may be but a handful left. In the middle or southern States bees can be allowed to stand out of doors during the winter with safety. In my more recent observations and experiments, especially in the northern States, I have found no place to winter bees in, equal to a *dark, dry cellar*.

If the hives are rightly arranged, and the cellar ventilated by opening either a door or window in the night time, occasionally, there will be no loss of bees only what die of old age, and the comb will look nearly as white as in the fall previous. Bees when kept in a cellar of this kind, will not make a discharge to soil the comb during the whole winter, and will consume but a very few pounds of honey—say about a pound to a thousand bees; for ordinary swarms it would require from ten to twenty pounds of honey. At this low temperature the bees will remain very quiet and still, and if the cellar is kept perfectly dark, they will remain so during the whole winter, and will hardly know when spring approaches, which will not be the case when kept in a room above ground or out of doors. Bees frequently receive more injury in being confined in the hive on the approach of spring, than they will if allowed to fly out.

The time to put bees in winter quarters depends somewhat upon the severity of the weather—usually the last of November or the 1st of December; if the weather is not too cold, they may safely remain out until near January. They generally suffer more in the latter part than in the beginning of winter.

Position of the Hives when placed in the Cellar—If straw or the old-fashioned board hive, they should be turned bottom side up, with the bottom boards removed. Their animal heat will then drive all the dampness and mold out of the hive. The only disadvantage in turning a hive bottom-side up, is, all the dead bees and particles of comb will drop among the combs in the bottom of the hive. But if there is honey enough, there will be no trouble resulting from it, as when the hive is carried out of doors, and placed right-side up, the bees will readily clear it out. If *movable-comb hives* are used, the cap, boxes, &c., should be removed, and the hive allowed to remain right-side up, with the entrance closed.

The time to remove Bees from the Cellar depends in a great measure upon the forwardness of the spring, and care should be taken that the weather is warm enough that the bees can safely fly from the hive and return again, always observing to never set but a part of the hives out the same day, and always place them as near as practicable on the same stand that they occupied the year previous, to avoid confusion and robbery.

After the bees have all made their excursion as they always do on the first day, and discharge themselves, thousands of bees might then be saved by setting them back into the cellar again for three or four weeks, and at the same time supply each hive with a substitute for the bee bread which is *Rye meal* (or common flour will answer,) as bee bread or Pollen is the first thing the bees will visit the fields for, in early spring; by supplying them with this useful article the lives of a large number of bees will be saved, which if allowed to stand out would be lost.

Burying Bees in the Ground,

Is a practice that some inexperienced bee-keepers have resorted to, and not unfrequently with fearful loss. The object aimed at seems to be the low, even temperature that our cellar affords. In a light, loose sandy soil, if the bees are properly buried, there are instances where they have lived through it. I have frequently heard it remarked by those who advocate this process that the hives were as heavy in the Spring as they were the Fall before; should the bees all perish as I have repeatedly seen, this theory might prove true. I have yet to learn if bees can be wintered in any place without consuming some honey; it is true, if bees are kept in a damp place and should they survive the dampness, the amount of honey they would consume will be small, the weight of which would be balanced by the dampness and mould which the combs will take up, so that the hive would be nearly as heavy in the Spring as it was the Fall previous.

P. S. If the reader desires more information on this subject, fuller information will be given on application with stamps for return postage.

K. P. KIDDER.

[For the Country Gentleman and Cultivator.]

The True Cause of the Potato Disease.

BY PROF. S. W. JOHNSON.

Our heading reads the *true cause*, for the reason that so many false causes have been laid at the foundation of this disease, that to say simply *the cause*, would merely imply another, no better, perhaps worse, than those already familiar to the reader and alike unsatisfactory.

But why is it that we have had so many causes for this disease? It is on account of the difficulty of investigating the matter. Strange as it may appear, the true cause is the one suggested first of all, nearly as soon as the evil showed itself. It was not however *proven* to be the cause. The earliest observers saw the cause, described it, figured it, and gave their opinion that it produced the disease, but did not demonstrate the fact. That a parasitic fungus or mould-plant was always associated with the potato rot, was the first microscopic observation made. But to the suggestion that it caused the decay of the potato, it was replied by Liebig and his school—the fungus is not the cause but the result of decay. Liebig's theory of decay and fermentation, at that time a new, plausible and incontrovertible theory, did not allow a fungus to originate a rot, but only to feed upon it. To this, the fungus theorists made but lame replies, and other "causes" were shortly discovered in appalling numbers. Smee found a sort of louse or aphid grazing among the fungi, and he decided it to be the cause. Some thought the potato had "run out," had lost its original vigor of constitution from long cultivation, and thus fell an easy prey to parasites that could do no damage to a healthy plant. Others said that the long-continued propagation from the tubers (buds) had undermined the health of the potato—like breeding in-and-in, had developed a kind of scrofula—and the plant must be reproduced from the seed, which was done without such success as would be needful to sustain that theory of the disease.

Some thought too high feeding, especially of nitrogenous manures, spoiled the potato. Others ascribed the disease to absence of salt. Others to bad, wet weather, wet and warm weather stagnating the juices. Others thought the potato rot was connected with cholera, with want of ozone, &c., &c.

All these theories were sustained by various arguments and facts, but none of them explained everything, and the wisest were bold enough not to know what the *true cause* might be. Then, as to the remedies, every day brought forth the cure, but no one cured twice.

At last the genuine cause has appeared, and what is it? Why, the fungus! But we gave that up years ago! Well, we must take it again; it is the true cause! Beyond all reasonable doubt, it is proved that the potato never rots without the fungus, and that it always rots with it. Planting the fungus on a sound potato develops the disease. Shielding the potato from the fungus prevents the disease. The rot starts where the fungus begins to grow. Each microscopic cell of the tuber becomes discolored and rotten, when, and only when the fungus issues its branches into it, or into its immediate neighborhood. Constitution, tuber, propagation, aphides, salt, manures and weather have nothing to do with the disease, except as they favor or destroy the fungus.

This is a grand result, if true. After carefully studying the evidence, it is hard to reject the doctrine. Let us examine the evidence and judge for ourselves.

As is well known, the first indication of potato disease is the blight of the leaf. This comes on so suddenly, and often so peculiarly, as to point with the utmost directness to a fungus as its cause. That a fungus is developed on and in the blighted leaf, is perfectly understood, and has been from the first. To prove that this fungus invariably precedes, and is immediately followed by the blight, is the capital achievement lately made by Dr. Speerscheider, and confirmed by Kuhn and De Bary, botanists of Germany. These investigators have not merely looked at the blighted leaves and seen the fungus there, but have watched the fungus as it rapidly sends out its branches into the still fresh and healthy portions of the leaf, and literally devours them—appropriating their juices to its own nourishment, and leaving behind a disorganized and decayed mass as the track of its desolation. It is easy to see with the unaided eye, that the fungus travels over the potato leaf *before* the blight. If the observer carefully regards one of the brown blight-spots when the disease is spreading, he will see that at its borders, and extending over upon the still green leaf, is a forest of tiny mould-plants which cover the leaf with a greenish down. This is the potato fungus, the *Peronospora infestans*, as it is now botanically designated.

The manner of growth of this plant must be known before one can understand its effects. It comes from a seed or *spore* of microscopic dimensions, a minute oval, somewhat flattened body which bears at either extremity a hair-like prolongation. These spores are produced to the number of 12—16, together, in a spore-sack at the extremity of a branch of the fungus. They are kept in a peculiar rapid motion by the vibration of the hair-like appendages, and when ripe they burst the spore-sack and are discharged. Their motion continues about half an hour, when it becomes slower, and shortly ceases. Then the spore begins to change its figure, the hairs disappear, and shortly a thread-like branch begins to protrude from its side; this rapidly increases, and if the spore is upon the potato plant, the branch, which is the seedling fungus, so to speak, penetrates the tissues of the potato,—leaf, stem or tuber, as the case may be,—and forthwith commences its parasitic life. The young fungus buds out in various directions, sending into the juices and cells of the potato its feeding branches or *mycelium*; while other, or fruit-branches, pass out into the atmosphere and reproduce spores with marvelous fecundity. The growth of the mother plant continues as long as it finds food and the requisite warmth and moisture. When the supplies existing in one place are exhausted, the plant dies in that spot; but the branches which had previously extended into the neighboring regions, continue to grow, so that the devastations of this fungus are like a fire which spreads in all directions wherever it finds fuel.

Nothing can explain the fact that a field which yesterday was green and to all appearance healthy, to-day is black with blight, except the almost magical increase of this parasite. Nothing else can enable us to comprehend how a part of a field—a streak across it—is blighted, while the rest is undamaged.

De Bary has produced the blight on healthy potato leaves by sowing the spores and causing the "fungus" to develop on them. To accomplish this it is only necessary to bring a spore in a droplet of water that is stationed on a bit of potato leaf, or to keep the spore and leaf in a sufficiently moist place for a few hours, to see with the microscope, the fungus develop and the leaf turn yellow

and finally brown, with all the symptoms that are observed when the disease is taken in the natural way.

By these observations and experiments it appears proved beyond all cavil, that the *Peronospora infestans* is the cause of the leaf blight, which is the invariable precursor of the rot of the tuber.

The question next comes up: What has the fungus to do with the rot itself—with the potato disease proper?

On this point the evidence is no less conclusive. Dr. De Bary* describes the following simple experiment, which demonstrates that the tuber rot is the work of the fungus. A perfectly healthy potato is well washed and cut into halves. Each half is placed in a separate saucer, with the cut surface uppermost, and is covered with a tumbler or bell-glass, to protect it from dust and disturbance. A little pure water is placed in each saucer to keep the potato from drying away.

Upon the cut surface of one of the pieces a number of spore-sacks of *Peronospora* are scattered, care being taken that none shall get across to the other piece. Both are now left to themselves, protected by the bell-glasses, and under the same conditions of temperature, moisture, &c. In ten or more days, according as the weather is warmer or cooler, the experimenter may observe that the half upon which the spores were sown, begins to exhibit decided symptoms of the disease, while the other half remains perfectly healthy. The symptoms are precisely those which are always observed in the potato rot. The surface of the tuber first turns brown at the points where the spores were deposited; the discoloration extends outward from these spots in all directions, and in a few days the whole section is brown to the average depth of one-half to one line. The change proceeds from the edges of the cut surface under the skin of the tuber, until the whole mass is enveloped in a brown coating.

The disease penetrates deeper and deeper into the tuber, until the latter is completely infected. If much moisture be present, the mass dissolves to a dark foul liquid; otherwise it dries away and shrivels together, as happens in the diseased potatoes in a dry cellar.

On the section of the inoculated half, patches of mold appear as the discoloration commences. These extend rapidly, and when magnified, are seen to be the fruit-bearing branches of the fungus. They break out also through the skin after the parts underlying have become brown by the ravages of the mycelium.

With the other half of the potato, matters have gone on very differently. A discoloration is indeed noticeable at first; but it is slight, and is due to the formation of a new skin. In a short time the wound heals over, and thenceforth no further change happens, though months elapse, except such as would occur with sound uncut potatoes under the same circumstances.

The same result follows when a potato is sown with spores and buried in moist earth. It is not needful that the spores be applied to a cut surface. The fungus when it begins to grow, will penetrate the potato skin without difficulty. About a week is required for the disease to become evident.

These facts, which Speerschnider and De Bary have repeatedly verified, and which any one may observe without difficulty, illustrate the manner in which the rot in the tuber is a consequence of the blight of the leaf. The spores which fall from the mature fungus that is on the

leaves, are carried by rains down into the ground, and reach the tubers, provided the latter are not too deep-lying, and thus infect them. If the soil of a field that is brown from blight be examined microscopically, there is no difficulty in finding spores among the particles of earth.

A simple experiment furnishes proof that this is the actual process. De Bary buried potatoes in sand from one-half to three inches deep, laid blighted potato tops on the surface of the sand, and sprinkled the whole moderately with water; in all cases the potatoes thus treated became diseased within eleven days. It is hardly necessary to state that to make these experiments conclusive, other potatoes were treated similarly in all respects, save that they were not treated with fungus spores, and that they invariably remained healthy.

De Bary describes the precautions which are needful to be observed in order to find the *Peronospora* in every potato that is infected with the rot. The difficulties in the microscopic examination of the diseased potato have prevented many skilled observers from tracing the disease to its true cause; but with proper care it is easy to demonstrate beyond all question that *where this fungus is, there is potato disease, and where the disease is, there is this fungus*.

We must reserve for another article an account of the means to resist the ravages of the *Peronospora infestans*.
Sheffield Scientific School of Yale College, Jan., 1863.

[For the Country Gentleman and Cultivator.]

Shallow Plowing for Corn and Tobacco.

At a meeting of our Farmers' Club, recently, in a discussion upon the best methods of applying manure for the tobacco crop, it was stated by our president, that he would plow in the manure, but would not plow the land over five inches deep at the outside—rather go less than deeper; and he thought that he could get from a quarter to a third more tobacco by the shallow plowing. This, he said, was his experience. He said that this year, having occasion to be absent from the fields, his man, in trying to plow so shallow, found that the furrow slice shoved, and did not turn over properly, and set the plow to run seven inches deep, and in this way plowed one land, and that one land could be very easily pointed out during the season. There was not over two-thirds the amount of tobacco that there was on adjoining lands. This is his experience, and is entitled to some weight, as he raises from 15 to 20 acres annually.

Another gentleman, who occupies what was called a worn-out pine plain farm 30 years ago, of some 40 acres, plows his manure in from three to four inches, only plowing once, and has not plowed any deeper for the time he has owned the farm, six or seven years, and his crops continue to improve, this year having grown 5,000 pounds of tobacco, and over 300 bushels of corn—his corn averaging over 50 bushels to the acre, and tobacco some 1,800 pounds to the acre.

I wish only to state these facts, allowing the reader to draw his own conclusions, simply premising that their practice and mine differ as to depth of plowing. I should prefer to plow twice—once eight inches at least.

Whatels, Mass.

JAS. M. CRAFTS.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Hams.

We can testify to the efficacy of the mixture in just the proportions mentioned in No. 1, having used it for the past 15 years; but would think it labor for nothing to unpack and re-rub a lot of meat every day for weeks, thinking it quite sufficient to give it one good and effectual rubbing with the mixture in a tub, previous to placing on a board, pushing a goodly portion in hock ends, and putting on in such a manner as nearly to use up the whole mixture at first rubbing; if any remain, spread it over in a few days.

D. C.

* In his work, "Die gegenwaertig herrschende Kartoffel-Krankheit; ihre Ursache und ihre Verhuetung."

[For the Country Gentleman and Cultivator.]

My Experience in Feeding Cornstalks.

EDITORS COUNTRY GENTLEMAN—There has been so much cutting and slashing at cornstalks, that it seems to me the subject is about ground up, whether the stalks are or not; but as I have had more experience in the use of cut stalks than any of the writers have told us of, I thought I would give you a little of said experience, believing as I do that it is, especially in agriculture, a thousand times more valuable than theory.

It is twelve years since I began using cornstalks as food for cattle and horses in winter. The first three winters I fed but one horse and two cows, and as I was my own boy, and did my own feeding and milking most of the time, I know how much work it was to prepare the feed and do the feeding. I do not think the time occupied in preparing the feed and feeding, was on an average more than one hour each day.

I have always prepared the feed in the following manner:—The stalks are cut from quarter to half an inch in length. Sufficient for a feed is then put into a water-tight vat or box, and packed closely by tramping with the feet, after which boiling water, sufficient to moisten the whole is thrown over them; then from four to six quarts of bran to each animal to be fed, is spread evenly over the stalks, and the lid, which must fit closely, is closed. They are left thus to soak or steam for about twelve hours, when the bran is thoroughly mixed with the stalks, and they are fed in boxes or stanchions. I had forgotten to say that each box or vat of feed is seasoned with a little salt.

For the last nine years I have fed from twenty to forty head of cattle in this way in the winter, and my cattle have been in as good condition on the 1st of January each year, as they were on the 1st of November, and I have not fed twenty tons of hay to cattle in the whole time. In fact, I never feed hay till my stalks are gone, except to calves. They ought to have hay.

In order to arrive at the value of feed, we must know how much is fed. The first three years, when feeding two cows and one horse, I had just an acre and a half of corn fodder and one load or ton of hay each year, but my land was very rich and the corn unusually good.

By preparing the feed as I have directed, you will not need more than an acre of fodder for each animal wintered, and not so much if the corn is good. I do not know the value of fodder when fed whole, but think two dollars an acre a high estimate for it. If so, then the account would stand as follows:

One acre of corn fodder.....	\$2.00
56 bushels of bran, at seven cents.....	3.92
Preparing feed and feeding 150 days, $\frac{1}{2}$ of an hour each day,...	5.00
Fuel for heating water, say.....	20

Amount for wintering on corn fodder..... \$11.12

Wintering on hay would be as follows:

Two tons of hay, at \$7 per ton.....	\$14.00
Feeding 150 days, at one-tenth of an hour per day.....	1.50

Cost of wintering one cow on hay..... \$15.50

Difference in favor of wintering on fodder cut and prepared as I have suggested..... \$4.38

In making the above estimates I have taken the value of things here. Everything, almost, changes its value as it changes its location. Therefore every man must be guided by the cost of articles in his own vicinity. The man who must raise hay and haul it (as we say here in Ohio,) ten miles to market, to get money to buy bran with, would probably find it cheaper to feed the hay.

One correspondent says he can see no economy in cutting cornstalks unless they are mouldy or damaged; then he thinks cattle may be made, or coaxed to eat them, by putting on a liberal supply of bran. I never feed any mouldy cornstalks, and if there is any man who does not know how to always have bright, green, sweet cornstalks for his cattle, I will tell him how, if he will ask me by mail how it is done.

Some say, if you cut stalks fine and mix bran with them, cattle will eat them all. This has not been my experience.

My feeding troughs for cattle, sheep, horses and hogs, are thoroughly cleaned every day; if the animals do not do it themselves, we do it for them. If they have left good nutritious food, it is taken out, and they are fed less the next time, or the health of the animal is looked after; but if we find butts of stalks or short pieces of stubble, which have been cut and gathered with clover hay, or a lock of mouldy hay, as will sometimes happen, all is cleaned out.

We usually take from eight mangers one bushel basket of butts each day, and as we feed about a bushel at a time, the loss is about one-sixteenth. Towards spring, as the stalks get drier, the proportion of loss is greater.

Massillon, Stark Co., Ohio, Dec. 20.

IRA M. ALLEN.

[For the Country Gentleman and Cultivator.]

SHORTENING THE FODDERING SEASON.

John Richman of Morris Co., N. J., in the last Co. GENT. for 1862, tells us that his grass is now so good that he has foddered only ten days up to the middle of December, having snow on the ground for that portion of the time. His meadows are top-dressed with muck direct from the pit, (in autumn, we suppose,) and he finds the application very profitable. Further information on his method of employing muck would be acceptable, no doubt, to many readers.

It is a matter of some importance to the farmer to shorten as far as possible the foddering season. Graze as late and as early as we can, there is a long and tedious winter to pass through—a season of trial and discomfort both to the stock and their feeder. There is a part of the year when stock are glad to get to the barn at times, but hardly satisfied to stay there steadily. These warm, foggy winter days, bring on a hankering for grass which no fodder will fully satisfy, or at least without a good deal of daintiness on the part of the animal. If one has a suitable pasture, not easily injured by their running over it, his stock will gladly betake themselves to it in open weather even in mid-winter.

The only kind of grass which will bear winter-grazing is our June grass, or the Kentucky blue-grass, which forms a firm sward, which on a naturally dry soil will bear the tread of any animal without injury. And such old swards often furnish our best feeding ground in the thaw days, even after snow comes, especially for feeding out cornstalks. We know several instances of a large part of the winter feed of stock being furnished by grazing, but usually in this section little dependence can be placed upon this resource after the middle of January. At the present time, grasses not grazed closely during the fall are still quite green, and this is especially the case with top-dressed meadows and pastures. The advantages of top-dressing are not fully appreciated—it is true, as Mr. Richman says, that no work pays larger profit than this.

To those who have all the conveniences of stables and racks for all their stock, it may seem idle to talk of any less thorough method; but as far as our observation extends, a large share of the stock of our country spend their winter in the open air, save the shelter of sheds of more or less openness or exposure. Labor and forage are too dear, and beef too cheap and plentiful, to encourage very great improvements in this respect, though we doubt not it would prove profitable on the whole.

No farmer who regards his own interest, will suffer his stock to range over newly seeded clover or timothy during the winter season. The grass crop and the soil would be irreparably injured by the treading up it would receive—it is only old sods which will bear this treatment, and these on a naturally dry soil only. And another thought. In these days of changing weather, it will not answer to trust the elements too far; our flocks and herds should be in their yards and sheds every night in winter. Not long since we were tempted by the mild pleasant evening to leave our sheep in the field, as far more comfortable

than their shed would be. Before daylight we heard the snow beating our windows, and started out as soon as day to bring them in—giving them their breakfast before stopping to take our own. The cattle were shut from the yard more recently, and rain came on before morning—and we again came to the conclusion that it is safest to expect storms, and be prepared for them.

How much pleasanter, we sometimes think, would it be were winter condensed somewhat—did we have less of a mixture of weather more appropriate to spring or autumn. This state of things has its uses, no doubt, and we must seek to accommodate ourselves to it—seek to winter our stock as comfortably and economically as we can. To study their thrift and comfort is our truest interest, though many fail to see it in that light. J. H. B.

[For the Country Gentleman and Cultivator.]

Will Dairying Continue a Paying Business?

Nothing is more certain than that the laws of supply and demand regulate the commercial price of all products. The organization of soil and climate are such that no one locality can produce all important agricultural staples, but every section of country produces some particular staple that is not generally produced.

The wisdom of our Creator was never more clearly developed, than in the arrangement of the Universe, whereby those products most needed for the convenience of man are produced nearly in the ratio of the world's wants, whether it is the production of the soil or the metals and minerals garnered up in the mountain fastnesses. Primarily let us consider the extent of country in the several states adapted to dairying, and from whence came the twenty two thousand tons of cheese, and the fourteen thousand of butter shipped to Europe in 1861, three-fourths of which went to England? The dairy region of the United States, so far as it can be successfully prosecuted to become a leading staple, lies between the fortieth and forty-fifth degrees of latitude. Take it for granted that the New England States produce butter and cheese enough for their own consumption, which I think is an over-estimate, as I am confident more is sent from Northern New York to Boston and Providence, than is exported from those ports to Europe.

New-York, Western Pennsylvania, and the Western Reserve in Ohio, constitute the great exporting dairy region of the United States. This is emphatically the greatest dairy region of the world, as the valley of the Mississippi is the greatest grain region. Some butter is sent to New York from Michigan, northern Illinois and Wisconsin, known there as "western butter." The prairies states are better adapted to raising the cereals than anything else. The prairie grass is better adapted to making flesh than to secreting milk. New York is truly the Empire State in point of dairying. It possesses three important qualities necessary for successful dairying: a temperate climate, sweet pastures and pure running water. She has also by her rail roads a close proximity to all the great consuming and exporting marts. The new states of the west which are so rapidly opening up, cannot compete with us, for want of adaptation of soil and climate.

It would be an easy thing to double the amount of butter and cheese made in this State in ten years, if farmers shall see their interest in that direction. The exports to Europe have trebled in the last three years, and if peaceful relations continue with it, we may look for an increased demand there. There is more nutriment in a pound of cheese than in a pound of beef, at a less price. The English laborer makes his meal from his bread and cheese and a pot of beer. Simultaneously with the certain increase of the wealth and products of the States, will be the increase of towns and villages, which will increase the demand for dairy products, as they are an essential constituent to every meal.

With all these facts before us, need any one fear the time will come when dairying will not be a paying busi-

ness? No branch of agriculture is so well calculated to enrich the soil as this. Grazing will enrich while continued tillage will impoverish.

Next in importance to quantity is the quality of our butter and cheese. Many dairymen lose a large percentage of their profits by making an inferior article. Nothing but want of skill prevents us from making as good butter as Orange county.

The last few years has shown a decided improvement in the quality made. If this improvement shall continue in the same ratio for a few years, the products of New York dairies will take a high stand in the market of the world, and challenge competition. A prime article will always command a fair price even if the price rules low, while an inferior article will not sell for a remunerating price at any time. Agricultural publications have done much to improve the quality of our dairy products, by spreading information broad-cast through the land, and to every one that wills it, the process of manufacture practiced by large numbers of the best dairymen of the State. This comparing of notes by persons of large experience has given the business an increased interest; improved the quality, and added to the profits. HIRAM WALKER.

Mexico, Dec. 1862.

[For the Country Gentleman and Cultivator.]

CULTIVATOR FOR ROOT CROPS.

EDS. COUNTRY GENT.—Having noticed in your paper of the 25th ult, a communication from "Old Hurricane," and an inquiry for a machine to clean and cultivate carrots and roots, I should like to call his attention to a small hand implement called "Halsted's Patent Hand Cultivator," which I have used for the past two seasons in onions, carrots, turnips and beets. It has worked to my entire satisfaction. I roll the ground lightly before sowing, and use the cultivator as soon as I can see the rows. One man and machine can hoe out an acre per day, with ease. The machine is adjustable, and cuts from 8 to 24 inches in width, and from a quarter to 2 inches deep. The inventor (who by the way is a relative of mine,) is a practical farmer, and having, like "O. H.," tried all the machines and found them wanting, got up the cultivator for his own use, and has since had it patented. It is to be hoped that the inventor will take measures to have the market supplied the coming year, as many of my friends and others wanted, but could not get them. I believe Messrs. Haines & Pell, 27 Cortland St., New York, are acting as his agents. H. M. A. Rye, N. Y.

[For the Country Gentleman and Cultivator.]

Dressing Skins with the Fur or Wool on.

H. S. C., in the Dec. no., of THE CULTIVATOR, wishes to know how to tan Muskrat and Mink skins with the fur on. I have never tanned Muskrat skins, for the reason I never considered them worth the trouble. With Mink skins and skins from young lambs, I have had good success by the following method:

As soon as the skin is taken from the animal, stretch it tightly on a board, flesh side out; then, before it begins to dry, I apply an equal mixture of fine salt and alum, thoroughly pulverized together, until the skin is slightly whitened by the mixture. I then take no further notice of the skins until I want them for use, (which is always a few weeks from the time of applying the mixture.) I then take them and thoroughly wash them in warm soap-suds, let them dry moderately, and just before they are fully dry, rub them soft with my hands. After rubbing they are soft and pliable as a kid glove, and will continue so. G. C. F.

LIQUID BLACKING.—Take fine ivory black, and mixed with some very thin lac varnish, consisting of lac dissolved in alcohol, and a good quick drying liquid blacking is obtained.



ALBANY, N. Y., FEBRUARY, 1863.

During the pressure of "War times," the list of Agricultural Journals at the North has been greatly reduced, and out of those which survive there are but two or three beside our own which have not greatly reduced their dimensions. Three or four years ago we published a list of the professedly Agricultural and Horticultural Journals of the country, which included

	Weeklies.	Monthlies.	Total.
In States now Loyal.....	19	28	47
In the Rebel States,	4	4	8
Totals.....	23	32	55

As to the papers then published at the South, there is room to doubt whether all are not now dead, and out of the Northern list, we think the following is a correct statement for the current week and month—changes take place so rapidly that it may not long remain correct:—

WEEKLY AGRICULTURAL JOURNALS.

Boston Cultivator.....	Quarto, 8 pp.	\$2.....	Boston, Mass.
California Farmer.....	Quarto, 8 pp.	4.....	San Francisco, Cal.
COUNTRY GENTLEMAN.....	Quarto, 16 pp.	2.....	Albany, N. Y.
Farmers' Advocate.....	Quarto, 16 pp.	2.....	Chicago, Ill.
Maine Farmer.....	Folio, 4 pp.	2.....	Augusta, Me.
Mass. Plowman.....	Folio, 4 pp.	2.....	Boston, Mass.
New-England Farmer.....	Folio, 4 pp.	2.....	Boston, Mass.
Ohio Farmer.....	Quarto, 8 pp.	2.....	Cleveland, O.
Prairie Farmer.....	Quarto, 16 pp.	2.....	Chicago, Ill.
Rural New-Yorker.....	Quarto, 8 pp.	2.....	Rochester, N. Y.

MONTHLY AND SEMI-MONTHLY AG. AND HORT. JOURNALS.

American Agriculturist.....	Quarto, 32 pp.	\$1.....	New-York.
CULTIVATOR.....	Octavo, 32 pp.	50c.....	Albany, N. Y.
Farmer and Gardener.....	Octavo, 32 pp.	\$1.....	Philadelphia.
Gardener's Monthly.....	Octavo, 32 pp.	1.50.....	Philadelphia.
Genesee Farmer.....	Octavo, 32 pp.	60c.....	Rochester, N. Y.
Horticulturist.....	Octavo, 32 pp.	\$2.....	New-York.
Hovey's Magazine.....	Octavo, 44 pp.	2.....	Boston.
Illinois Farmer.....	Octavo, 32 pp.	1.....	Springfield, Ill.
Journal State Ag. Soc'y.....	Octavo, 32 pp.	50c.....	Springfield, Ill.
Michigan Farmer.....	Quarto, 16 pp.	\$1.....	Detroit.
New-England Farmer.....	Octavo, 32 pp.	1.....	Boston.
Rural American.....	Semi-Monthly, 4 pp.	\$1.....	Utica.
Rural Register.....	Octavo, 32 pp.	\$1.....	Baltimore.
Valley Farmer.....	Octavo, 32 pp.	1.....	St. Louis.
Wisconsin Farmer.....	Octavo, 32 pp.	1.....	Madison.
Working Farmer.....	Quarto, 24 pp.	1.....	New-York.

CANADA.

Canadian Agriculturist—Octavo, 44 pp. monthly—50c.	Toronto, C. W.
L. Agriculteur—Octavo, 24 pp. monthly—French—\$1.	Montreal, C. E.
Lower Canada Agriculturist—Octavo, 32 pp. monthly in English and French both—\$1.	Montreal, C. E.

THE GOODRICH POTATOES.—We received last spring, a barrel containing six varieties of these potatoes, for planting on trial, but owing to a blunder of the railway agent they did not arrive till quite late in spring. They were planted in rows about three and a half feet apart, and in hills eighteen inches apart in the row. Earlier planting would of course have succeeded better, but these, however, gave a very favorable result as to productiveness.

The variety known as the *Central City* gave the smallest crop, or only at the rate of 146 bushels per acre. Next the *Callao* yielded at the rate of 220 bushels per acre. The *Copper Mine* about 300 per acre. The *Garnet Chili* 365. The *Pink-eye Rusty-coat* 375, and the *Cuzco*, by far the most productive of all, at the rate of over 500 bushels per acre. Fourteen average hills gave a bushel. The soil was a strong fertile loam that had been manured only in former years, and was kept well cultivated. The last named variety was remarkable for the compactness of the roots in the hill, and for the very few small tubers. The *Copper Mine*, on the other hand, was remarkable for spreading in the hill. The *Garnet Chili* and *Pink-eye Rusty-coat*, were rather compact growers.

Although planted late, and a wet and unfavorable season,

there was very little appearance of rotting among any of them. In order to test their quality, specimens were cooked at the same time, and tasted side by side. The *Callao* was the best, and proved of excellent quality. The *Copper Mine* was but little inferior. The *Garnet Chili* appeared to be next in quality, and the *Cuzco* and *Pink-eye Rusty-coat* last. All were pronounced decidedly superior to the *Prince Albert* examined at the same time. A neighbor, however, to whom some of them were given for trial, appeared to prefer the strong and peculiar flavor of the *Prince Albert* to any of them.

On the whole we regard the experiment as a very successful one, proving the great value of these new seedling potatoes, and the originator has conferred a benefit on the community that can hardly be estimated by money.

WOOL GROWING IN MICHIGAN.—In the December number of *THE CULTIVATOR* your statistical table on sheep places Ohio 1st, New-York 2d, Indiana 3d, Pennsylvania 4th, and Michigan nowhere, in the number of sheep. Very well, we are perfectly willing you should do so. Please recollect that western farmers raise straw for the grain, and sheep for the wool. Michigan this day stands No. 3 in quantity, and second only to Vermont in quality. In 1840 our entire clip was 153,375 pounds; 1850, 2,043,283; 1860, 4,062,858—a fraction behind Pennsylvania, but in 1862 Michigan had 5,008,200, and in 1863 we will leap clear over 6,000,000, depend upon it. I think from the shape you put your statement in, it was not likely to do justice to Michigan. We think you will have to admit it, and also that she has made the most rapid strides of any State in the Union. The north and south parts of this State are equally well adapted to wool-growing; I can mention a dozen counties in the south part of the State that raised 3,000,000 pounds, and few of the same counties raise less than half a million bushels of wheat, and some more than 1,000,000 bushels. The Empire State must look to her laurels in the wool line, or Michigan will take them away; with her seventy-two counties under cultivation she is competent to raise 20,000,000 pounds, and feed you all with the best winter wheat besides. **WOLVERINE.** *Ann Arbor, Mich.* [The statistical table referred to above was simply a statement derived from the census of 1860, to show how the stock and leading productions of New-York compared with those of several of the other largest States. The number of Sheep, according to the census of 1860, was

In Ohio.....	3,063,887
New-York.....	3,617,855
Indiana.....	2,157,375
Pennsylvania.....	1,631,540
Michigan.....	1,465,477
California.....	1,075,718
Virginia.....	1,042,946
Kentucky.....	938,940
Missouri.....	937,445

which list comprises all the States then containing over 900,000 sheep, and in which Michigan certainly stands very well. These numbers, however, being given without any reference to the *proportionate area* of the respective States, really have very little significance, and we should not be surprised if little Vermont, with her 721,993 sheep, had actually the greatest number of all, in comparison to her surface of farming land.]

ERROR.—In the communication of H. W. LESTER, published on page 58 of this number, the amount of butter (24½ lbs.) mentioned as having been made "per week" from the milk of the cow "Ida May," is an error. This amount was actually made during a trial lasting ten days in June 1861, and was so intended to read.

SORGHUM MOLASSES.—We have received a fine sample of Sorghum Molasses from E. Y. TEAS of Richmond, Indiana, which he states was not equal to some which had been manufactured there. It has a clearer and purer appearance than most of the maple molasses made in this State, but still a little of the peculiar Sorghum flavor which is unpleasant to some who taste it for the first time. Our correspondent has not informed us, what we take for granted, that it was made by merely boiling and skimming the fresh expressed juice. We should be glad to receive from him the views of intelligent cultivators in that region, or, rather, their measured experiments, on the amount of profit to be derived from this manufacture, the best variety of the plant, mode of culture and manufacture, and whether it would be profitable on a large scale, say with a thousand-acre plantation, or is it best for farmers to raise their own on a limited scale?

THE LYDIA GRAPE.—A note from our correspondent, F. R. ELLIOTT, states that so far as he can learn from D. Kelly, on whose grounds it first grew, and from Edward Ward who first discovered its value, this is a chance seedling from some unknown sort, and not from the Isabella, as was stated some time ago in our columns.

VERMONT PREMIUM CROPS.—At the late annual meeting of the Vermont State Ag. Society, three first prizes were awarded to our correspondent, Mr. H. W. LESTER of Rutland, as follows:

Indian Corn—101 bushels and 19 quarts per acre.
Oats—79½ bushels per acre.
Potatoes—299 bushels per acre.

DOGS versus SHEEP.—The number of sheep killed by dogs in the State of Ohio during the year 1861, is returned as 31,750; the number injured, but not killed, 24,254. The total injury to sheep by dogs during that year amounted to \$86,434! The whole number of sheep killed by dogs for the four years, '58, '59, '60 and '61 was 167,046; injured, but not killed, 102,446. The damage amounted to \$422,386, as the total for the four years!

Notice is given in our last English exchanges of a movement among the agriculturists of Great Britain to decide on some testimonial to the memory of the late JONAS WEBB, in "appreciation of his high character, and of the services he has rendered to the cause of agriculture."

There is this one thing certainly which may be mentioned to the great credit of English farmers—they are never slow to mark their approval of, and gratitude for, the efforts of those who devote their lives to the service of Agriculture—whether as breeders like Mr. Webb, or as prominent farmers, or with the pen and voice, or in the laboratory and through the avenues of science. The subscriptions for such purposes are sometimes extremely liberal. A testimonial, for example, is now in course of collection to Mr. FISHER HOBBS, "for his distinguished services to the cause of British Agriculture." Mr. H. has been especially prominent of late years in the management of the Royal Ag. Society, and it is of these services we presume that this testimonial is especially intended as an acknowledgment, although he was in former years prominent as a breeder, and was always active in every sort of good work.

We should be glad if one of our foreign contemporaries would publish a list of the more prominent testimonials on the part of the Agriculturists of Great Britain, which

have been presented during the last twenty or thirty years, both as matter worthy of enduring record, and as illustrative of the efforts which the last quarter of a century has there witnessed, in behalf of agriculture, and the measure of favor with which these efforts have been publicly received.

SAVING FODDER.—The high price of hay warns all to be saving of fodder. Some sell stock and hay, and let their farms starve, for the sake of a few dollars to keep up appearances. Some farmers continue to let their stock roam over pastures and meadows, which will destroy more grass than they would eat if kept in yard and fed regularly three times a day. We believe it pays to feed every animal a little grain every day—sheep, calves, cows and horses, as they will eat less, do better, look better, and the profits are better. At the high price of oats, (fifty cents,) corn at seventy-five cents is the cheapest feed. At present we feed our fifty store sheep one gill of peas a piece per day—they like them, and probably will pay for extra care in lambs and wool in spring. G. B. JOHNSON.

Onondaga Co., Dec. 26, 1862.

A WORD ABOUT YOUR PAPER.—I like it greatly. Any subscriber owning a farm, or even cultivating a garden, must be a very dull reader if he does not receive treble the benefit of its cost. With the close of this year, I shall discontinue four or five publications that I have hitherto read; but owning and cultivating a patch of ground, I cannot well afford to get along without the COUNTRY GENTLEMAN. A. N. Meriden, Ct.

VERMONT STATE AG. SOCIETY.

The Annual Meeting of the Vermont State Agricultural Society was held at Bellows Falls on Friday, January 2d, 1863.

The Treasurer's Report showed a balance in the treasury of about four thousand dollars.

The following gentlemen were elected officers for the ensuing year:

President—EDWIN HAMMOND of Middlebury.
Vice-Presidents—1. J. W. Colburn of Springfield;
2. Henry Keyes of Newbury;
3. Daniel R. Potter of St. Albans;
4. Henry G. Root of Bennington.
Cor. and Rec. Sec.—Daniel Needham of Hartford.
Treasurer—J. W. Colburn of Springfield.
Directors—Frederick Holbrook; E. W. Chase; Henry S. Morse; David Hill; John Gregory; Elijah Cleveland; Nathan Cushing; Geo. Campbell and Henry Heywood.

CONNECTICUT STATE AGRICULTURAL SOCIETY.

President—EPHRAIM F. HYDE of Stafford.
Vice-Presidents—Robbins Battell of Norfolk, and D. F. Gulliver of Norwich.
Recording Secretary—W. H. Stone of New-Haven.
Corresponding Secretary—T. S. Gold of Cornwall.
Treasurer—F. A. Brown of Hartford.
Chemist—Prof. S. W. Johnson of New Haven.

PHILADELPHIA AGRICULTURAL SOCIETY.

President—CRAIG BIDDLE.
Vice Presidents—Charles W. Harrison, Charles Kelley.
Corresponding Secretary—Sidney G. Fisher.
Recording Secretary—Alfred L. Kennedy.
Treasurer—George Blight.
Librarian—John McGowan.
Assistant Recording Secretary—Philip R. Freas.
Executive Committee—David Landreth, John Lardner, Charles W. Harrison, James A. McCrea, and John McGowan.
Library Committee—David Landreth, Craig Biddle, and George Blight.

Will Cattle Thrive without Water?

I think they will. I have for more than thirty years tried it, and have come to the conclusion that cattle, in fresh feed, will thrive faster without water than with. I winter my calves and colts without water, and think I have as good as my neighbors. I further think cattle fed on roots and meal will fatten better without water.

Tioga County.

W. S. PEARSALL.

LEWIS F. ALLEN, Esq., of Black Rock, has issued his circular for the 6th volume of the American Short-Horn Herd Book. He says:—

"Discouraged by the ill success of sales in the last (5th) volume of the American Short-Horn Herd Book, from the failure of the usual number of subscribers to take it after publication, I concluded to suspend any further labors in that line for the present. But, the usual period—two years from the compilation of the fifth volume—having elapsed, and receiving numerous applications from the more spirited among our Short-Horn Breeders to go on with the work as before, I have concluded, if a sufficient number of pedigrees are offered, and a corresponding number of books are subscribed for to warrant the undertaking, to receive pedigrees for volume sixth, to be issued as soon as they can be received and compiled in sufficient number. * * *

"The disruptions in our domestic affairs, by the rebellion in our Southern States, has depressed the selling value of our Short-Horns, but their intrinsic value is not at all affected. This temporary depression should be no discouragement to the breeding in their purity, and the perpetuation of their lineage. They are the noblest, most valuable race of horned cattle in existence, and will, ere long, be restored to the proud position in our agricultural productions which they maintained during our most prosperous times. As such, every Short-Horn breeder owes it to his own interest to keep the blood and lineage of his herd on an indisputable record."

Pedigrees will be received by Mr. ALLEN until the 1st of March, and as he does not propose in any event to print more than two-thirds his usual edition, those wishing the volume should subscribe for it at once. Any farther particulars that may be desired, will be supplied on application to him by mail at Black Rock, Erie Co., N. Y.

TOBACCO-GROWING IN NEW-ENGLAND.—We publish this week a very valuable practical article on the culture of Tobacco in Connecticut; and a correspondent, **JAMES CHILDS**, Esq., at Deerfield, Mass., writes us that there is a considerable excitement in the Connecticut Valley at the present time, in regard to growing tobacco. He says—"The farmers here are selling their crops from 15 to 17 cents per pound, and realizing in some instances more than two hundred dollars per acre. A large breadth of land will be planted with the nasty weed, I think, next season. Fine crops of winter wheat follow tobacco, as the land is heavily manured, and harvested in season to sow the wheat, some farmers realizing more than 40 bushels per acre."

LETTER FROM MICHIGAN.—I think that there was never a more favorable time to introduce *THE CULTIVATOR* here than now. My health and habits are such that I seldom leave my farm at this season of the year, but will do so for a few hours on reception of your documents. I have for many years been a self-constituted agent for any Agricultural journal in the United States, and hence have ordered nearly all that ever came to this office. I have not always been a subscriber to your publications, but have with few exceptions had access to them when not a subscriber, even from the first *Genesee Farmer*. I sometimes compare old numbers of that paper with yours at present; and my circumstances have been such for many years that I have been favored with many if not most of the Agricultural journals (or so called) of the United States, and to my mind yours has been the best of the whole. Most of your correspondents have known what instruction the practical farmer needed, and have also known what they were writing about. Over forty years

I have lived in this place, and have been trying to get a living by cultivating a small farm, and in order to do so have availed myself of all the helps within my reach; and to no one am I as much indebted for the progress made, as to the Senior Editor of the Co. GENT., and I herewith return him my hearty thanks.

L. C.
Oakland Co., Mich.

ACREABLE PRODUCTS OF STEUBEN CO., N. Y.—It appears from the Agricultural Survey of Steuben County, published in our State Society's last vol. of Transactions, that in 1861, some of its products were as follows:—Wheat, 37,092 acres; average a fraction over 10 bushels per acre—Barley, 9,861 acres; 13 bushels per acre—Buckwheat 5,425; 26 bushels per acre—Indian Corn, 13,993 acres; 26½ bushels per acre—Potatoes, 4,493 acres; 74 bushels per acre—Peas, 3,130 acres; a little over 11 bushels per acre—Beans, 979 acres; 12½ bushels per acre.

PREMIUM CROPS OF CLOVER SEED.—The Ontario county premium crops of clover seed, as reported in the last "Transactions," were over four bushels per acre—in the highest, four bushels and eighteen pounds. Both were seeded on winter grain, and the first crop of hay cut the last of June, the second saved for seed. Some farmers think a greater profit can be made from this crop than any other, but it is found very exhausting to the soil.

Dr. WM. D. BRINCKLE, well known in Horticultural circles for many years past, died at his residence at Groveville, N. J., Dec. 16th. He had long devoted a large portion of his time to the introduction and propagation of new fruits, having originated several varieties which rank among standard sorts. A series of resolutions adopted at a late meeting of the Pennsylvania Horticultural Society, include the following:

Resolved—That this society deeply mourn the decease of their late fellow member, William D. Brinckle, M. D., whose connection with it during many years has reflected honor upon the society.

Resolved—That although ill-health has for some time deprived us of the benefit of his knowledge and experience, yet we regard him as the Nestor of pomologists, and were sure of his sympathy in all that pertained to his favorite pursuits.

CHRISTMAS BEEF AND MUTTON.—Messrs. Gazely and Griffin of Dutchess county, exhibited at Poughkeepsie a pair of five-year old steers which weighed 5,400 lbs. Two other pairs of steers were present—one from Stephen Angel, weighing 4,825 lbs.—the other pair from D. Lands & Son, weighing 4,845 lbs. A pair of cattle, also on their way to the New-York market, belonging to Egbert Peckham, weighed 5,510 lbs.

Three Canada Sheep were sold at the Albany market the week before Christmas, for \$75, or \$25 per head. They are said to weigh 800 lbs., and are expected to dress an average of 200 lbs. The finest bunch of sheep in the same market, consisted of thirty full-blooded Leicester wethers, raised and fed by E. W. Cady of Dryden, Tompkins county. They averaged 210 lbs., and were sold for the New-York market, at seven cents per lb. A Poughkeepsie paper states that E. Griffin of Clinton, had at Poughkeepsie four South-Downs, which weighed 200 lbs. each, and which he sold for \$25 each, and that Mr. Gazely of the same place, had six Cotswold sheep, weighing 300 lbs. each, which he sold at \$35 per head.

THE WORCESTER SOUTHEAST SOCIETY (Mass.) held their annual meeting for choice of officers, when **ALBERT WOOD**, Esq., of Hopkinton, was re-elected President, and **Dr. J. G. Metcalf** of Mendon, Secretary.

Inquiries and Answers.

WINTER MANURING.—Will you advise me through *THE CULTIVATOR*, how it will do to spread manure on to ground intended for planting corn next spring, this winter, or whether it is better to pile it up in a heap? *E. P. Otsego Co.* [Spread the manure this winter as soon as practicable, and let it lie till spring. If the land is sod, plow it at a moderate depth a short time before planting—or if not grass, harrow it fine as soon as the soil is dry, and then invert it with a plow, not deep. This is far better than spreading the manure in spring.]

DRAINING SWAMPS.—On page 108 of *THE CULTIVATOR*, for the year 1859, there is a chapter on reclaiming swamps, in which reference is made, as an example of surface draining of swamps, to the statements of C. L. Kiersted of Ulster county, "given in the March no. of the Journal of our State Society." Can you furnish me with the copy spoken of, or send me C. L. Kiersted's Post-Office address? I have all of the late numbers of *THE CULTIVATOR*, and would not part with them, as I have a constant source of information on agricultural knowledge. *G. Kittery, Me.* [Mr. Kiersted's address is Kingston, Ulster Co., N. Y.]

POTATO PLANTER.—Can you tell me if there is any good machine in use for planting potatoes? I have seen notices of such a machine in the papers, but do not know whether it has proved successful. *A. S. Bell.* [Perhaps some of our readers may know of such a machine. In the mean time we would state that a gentleman near this city got up a machine for this purpose last year, with which he has been experimenting, and which he hopes to have ready for use the coming spring. The last no. of the *Maine Farmer* states that a young man by the name of True of Garland in that state, has invented and put into successful practice a machine for planting potatoes. It opens the furrow in the plowed land, cuts the potato, drops it and covers it nicely. Thus, a man and an old horse can plant as many potatoes in a day as five men can in the common way.]

GROWING CEDAR TREES.—I desire to know the best method of starting young cedar trees for a grove. Will it be necessary to go to the swamps to get them, or can I start them on the farm? *J. L. B. Madison Co., N. Y.* [The red cedar may be raised readily from seed, washing the pulp from the berries, which will grow in a year after planting, and sometimes the first year. We infer however that our correspondent alludes to the *white* or swamp cedar. This is difficult to raise from seed except by skillful nurserymen, of whom the young trees may be purchased; or they may be dug up from the swamp. The borders of the swamp and the more open or exposed places are best for procuring the young trees. To prevent danger of dying from removal take up a ball or cake of earth with the roots, large enough for the tree to stand on it without support, in which case it will be sure to live.]

PENNSYLVANIA FARM SCHOOL.—Please inform me through *THE CULTIVATOR*, in what town the Pennsylvania Farm School is situated? *E. F. J. Bristol, Conn.* [We do not know; it is in Center Co., and is the name of the Post Office itself.]

WEN OR ULCER ON CATTLE.—One of my oxen has a bunch on his neck just back of his jaws, and nearly under. There was a small bunch there when I got him, some two years ago, and it had a scar on it. About two months ago it commenced to grow, and now is nearly as large as a tea-saucer, and a little thicker. It has broken and is running now, but does not go down. Some of my neighbors call it a wen. Can you or any of your subscribers tell what it is, and what to do for it? *E. L. T. Gratiot Co., Mich.* [We are unable to give the proper mode of treatment, from any practical knowledge; but if the ulcer is foul, we would suggest the use

of a solution of chloride of lime of moderate strength, for washing it, and when it has become thoroughly cleansed, wash it repeatedly with a saturated solution of chlorate of potash, to promote a tendency to heal.]

SHAVINGS FOR ICE HOUSES.—I wish to inquire whether filling in of an ice-house one foot thick with shavings from a planing mill, will keep ice, the house above ground; and also whether shavings would be good to pack the ice in and cover it. *Jas. Wells. North Easton.* [If the shavings are very fine, and are pressed in compactly, a foot might answer for the purpose, but a foot and a half would be better. Saw-dust is the best material of all; then fine chaff; then finely chopped straw; while long straw and common shavings are much less efficient non-conductors, whether for the sides or the top of the ice.]

"HEREFORD."—What is the right pronunciation of the name of the breed of cattle written Hereford? I hear it pronounced so many different ways that I am at a loss to know which is right. *E. L. H.* [*Hereford* is a word of three syllables, with the accent on the first, with the *e* in the first syllable short like *e* in herring. The vowels in the two last syllables are indistinct.]

RED BEANS.—Will some of your readers please inform me where I can procure a bushel of red beans for seed? I notice that they sell in the New York market at four dollars per bushel. I have never raised any, and desire to learn how they can be grown, the kind of soil, &c., I have raised from fifteen to twenty acres of the white medium each year for several years past, but if I can grow the red bean as cheap as the white bean, I wish to give them a trial.

Newfane, N. Y.

C. S. McCOLLUM.

DISEASED COW.—I have a cow that calved last May, and has not since, to my knowledge, shown any disposition for the male, but has had turns periodically, of giving bloody milk, for a few days at a time, and as she is young—this being her first calf—I am anxious to obtain some information that will be of service to me in curing the cow. I ought perhaps to say that the cow is in good order, and is eating daily one peck of turnips, two quarts of corn meal, and what hay she wants, and is kept with my other cows and young cattle. Will some of your correspondents be kind enough to give me some information upon this subject.

Whately, Mass.

JAS. M. CROFTS.

CLOVER SEED.—Will you and some practical farmer, give your views as to the best kinds of clover seed to sow for pasture and for enriching the land? *J. A. M.* [The common or medium red clover, is generally regarded as the best for pasturage, growing shorter, more dense, and, when pastured, continuing to grow through the season. The large clover is thought to afford a heavier amount of herbage for plowing under, but its superiority has been doubtless over estimated by some.]

SEEDING ORCHARDS.—What kind of seed shall I use to seed down an old orchard. *J. A. M. Newfane, N. Y.* [Orchard grass will grow better in the shade of trees than any other, and if kept pastured short, as it always should be in an orchard, will afford comparatively good feed. Shaded pasturage is always inferior to such as grows in the sun, and is disliked by animals; it is chiefly valuable very early in the season. Orchard grass being an early sort, comes in well for this purpose.]

CULTIVATORS.—I would like to inquire if the "Yankee Farmer" is the best implement of the kind in use, or if there can be one obtained at less price that would answer the same purpose as S. W. Hall's? *J. J.* [The "Yankee Farmer" possesses some advantages over any other implement for cultivating, especially in the closeness and accuracy with which it works to the rows. Its only faults are its complexity and cost. Alden's Cultivator is probably next to it in value for working among root crops, and is a comparatively cheap and simple implement.]

CANADA THISTLES.—Would you be so kind as to inform a subscriber the best means to get rid of a troublesome weed, known in this section of the country as the "Canada thistle?" I have a piece of land on my farm of about one-half an acre, upon which has grown this weed for about ten years. I have tried all the remedies that have been presented to me without avail. P. W. Bucks Co., Pa. [To destroy the Canada thistle, all that is necessary is to smother it out of existence, or not to allow the plants to breathe through their leaves, keeping them constantly or daily cut off at or a little below the surface of the earth; or cover them with any substance through which they cannot penetrate or grow; these remedies, continued for one season, will accomplish the purpose, but cutting them off daily may be too laborious, or covering an extended surface impracticable. The best and cheapest way therefore is to plow the ground repeatedly during the season, so as to keep every plant at all times under. If the soil is rather heavy and compact, five good, deep and thorough plowings, each once a month, will perfectly extirpate them. If the soil is light, it may be necessary to repeat the plowing oftener. We speak from ample experience on this matter. Half-way work will be of no avail.]

CULTIVATOR POSTAGE.—I should be pleased to know what the postage on THE CULTIVATOR is—we pay 18 cents, and are willing, if it is right? T. A. Monroeville, Ohio. [Your postmaster charges you just three times the legal postage. The law is very clear, and shows that the postage of THE CULTIVATOR to any point in the United States is only six cents a year, paid quarterly or otherwise in advance.]

DRILL.—EDITORS OF CULTIVATOR: Please to inform me where I can buy a Drill—one that will drill in garden peas evenly and well; also the price. I wish to sow half an acre or more next spring, and it will be too tedious a process to put them in by hand. L. COBURN. E. Constable, N Y., Jan. 6. [Address the inquiry to either of the Agricultural warehouses advertising in our columns, of whom you can obtain good drills for different purposes and at different prices. They will furnish all the information desired, with the drills at fair prices into the bargain.]

POULTRY.—Please inform me if there is to be either in this State or any other, a Poultry Show this winter, if so, when and where? [We do not know of any.] Can you refer me to any one in Albany who breeds the pure blood white-faced Spanish fowls? C. E. C. [We cannot; our Advertising columns are open to any one who can.]

DRAINING HEAVY CLAY.—There is a farm in this neighborhood, about two-thirds of the upland of which is very stiff and heavy. There appears to be about 6 inches of soil, and under that a green or blue tenacious and almost impenetrable clay, which I believe overlays the green sand marl. The soil is strong, and when the season suits it grows large crops, but a little drouth makes it as hard as a brick, and a long spell of wet weather a quagmire. It is in the market, and a friend of mine, and a member of the Club, would like to know your opinion as to whether underdraining would cure it or not. G. H. Medford, N. J. [The farm obviously needs thorough and regular underdraining. The hard subsoil, when it becomes thus permanently dry, will probably be traversed by innumerable little fissures, and its tenacity disappear, but if not, a subsoil plow will make thorough work of it. Thorough draining, or with the ditches near together, will be best; and if this cannot all be done in one year, do thoroughly only a portion.]

SORGHUM MOLASSES.—Last fall I made a barrel of sorghum molasses, very clear and pleasant tasted. In a few weeks there began to form lumps in it of about the consistency of jelly. They continued to form until nearly half of it is composed of these lumps. The juice was crushed from the stalks in an iron mill, and evaporated in pans with wooden sides and sheet-iron bottom, using half a teaspoonful

of soda to every gallon of juice. I have manufactured Sorghum molasses for several seasons, but never had any like this before. I would be glad if some of your readers would explain the cause of it through your columns, if it is understood. B. F. COLLE. Flowerville.

CURING TOBACCO.—I would be glad to inquire through your valuable paper whether tobacco requires to be moistened any more when put to press than what it absorbs from the atmosphere, which makes it fit for stripping, in moist weather—in other words, whether it may not be packed too dry for producing the sweating process, said to be so necessary? Illinois. R. M.

MADDER.—Having had in my possession for some time a lot of madder, which we have as yet not cultivated to profit, but wishing so to do, (if it can be done here,) I wish to inquire whether madder can be cultivated here to profit, the proper mode of planting, tillage, and harvesting it; also, how to prepare it for market, what it is worth per pound, how much per acre is a fair yield, how long from planting time until fit to dig. D. C. Kimbleville, Chester Co., Pa.

COSTIVENESS IN HORSES.—Can any of your correspondents inform me of any way of relieving very severe costiveness in a horse? Shorts are of no avail. How about carrots? F. G. [The treatment must depend on the cause—probably a moderate portion of green food, such as carrots, would be useful in many instances. If the digestion is deranged, successive doses of pulverized charcoal would probably be beneficial. Take fresh charcoal from the fire, pulverize it fine, mix half a teacupful with a pint of water, and give doses every five or six hours, until the difficulty is relieved. Some of our correspondents may perhaps furnish a better remedy.]

GRINDING FEED.—It is often inconvenient to "mix mess" for horses, and in consequence many persons, through the winter and spring, feed with corn in the ear. Would not dry meal be preferable, and is it greatly inferior to "cut mess." S. New Jersey. [Grinding grain for domestic animals is much better than feeding it unground, or in the ear. It is more important for the small animals, such as swine, than for horses. Moistening or cooking the meal is not of great importance.]

FARM TEAMS.—Which are considered the most profitable for general farm work and teaming, horses, mules or oxen? J. J. [Horses are generally the most profitable; where there is much heavy work a yoke or two of oxen are valuable. Mules are exceedingly hardy, and very long-lived, and will do a great amount of labor, but we are unable to speak from practical knowledge of their general value.]

SPRING WHEAT.—What is Spring Wheat? Is it a distinct species of grain from winter wheat, and if so where has it come from? If not, how it was produced from winter wheat? I have applied in many quarters for answers to these questions without success. A reply will oblige yours truly. INQUIRER. Philadelphia, Dec. 31, 1862. [Spring wheat is a mere variety of winter wheat. Some of the oldest botanists made them distinct species; but winter wheat sown early in spring, has ripened grain the same year, and other changes are produced in a similar way. There are many varieties of wheat, of more or less permanence—produced by a difference of climate, or by successive sowings of selected grains, with some continued peculiarity observed. Even the compound heads of the Egyptian wheat produce single spikes after a while.]

A CHEAP MILL.—I would like to know from you or your correspondents whether a grist mill complete—i. e., the "smutter, fan, grinder, hopper, bolt and drawers"—that would grind and bolt better than ordinary mills, India wheat and buckwheat, 4 bushels per hour, with any kind of two-horse power, price \$50, would be a desirable concern for agriculturists anywhere? The mill or grinder, never requiring sharpening, a new one not costing \$3, and lasting to grind

2,000 bushels—all other parts lasting a lifetime. If such a thing is called for, I think I know the man that will answer the call at short notice. **INQUIRER.** *Vermont.* [We think such a mill would be valuable to farmers, but needs long trial to test its permanent value. We would like to report any carefully conducted experiments with such a mill, but manufacturers or vendors can properly recommend it in our advertising columns.]

FARM IMPLEMENTS.—Please give me the title of the best book on Implements of Husbandry, and oblige *w. m. Milwaukee Co., Wis.* [We know of no work on this subject, but Thomas' Farm Implements, the price of which is \$1.]

FOREIGN POSTAGE.—Will you please tell me what it will cost to send *THE CULTIVATOR* or *COUNTRY GENTLEMAN* to England, direct from your office. *w. m. Oak Creek, Wis.* [The regular subscription price, with 2 cents a number added to prepay postage—or \$3 04 for the *Co. GENT.*, and 74 cents for *THE CULTIVATOR* one year.]

STRENGTH REQUIRED FOR PLOWING.—I was in New-Hampshire last fall. I noticed that it took four oxen or their equivalent, to break up a stiff sod. The soil is granite. How is it in Western New-York on the same parallel, say 43°, where there is a limestone soil? At this place, at 40° and 12', we have lime stone and sand stone soils, and with us a pair of horses will break up any sod ground of ever so long standing. Is it the climate or soil which makes the difference? I should like your views on the subject. *N. P. A. Ohio Co., Va.* [A heavy stiff soil requires a stronger team than a light or sandy one. Climate or latitude has nothing to do with it, except so far as a severe winter may more effectually loosen the earth, or a wet or dry one render it soft or hard. The plows in Maine and New-Hampshire are generally larger than in New-York, hence a stronger team is required, and deeper and wider plowing done. The most profitable team for sod plowing, all things considered, is the three-horse team—stout animals for heavy soils, and medium ones for light soils. Two horses will do only where the soil is quite light, or the plowing rather shallow.]

FISH AND FISH PONDS.—I take the liberty of asking a few questions for practical information in the propagation and management of trout in artificial ponds—1st. What is necessary to construct a good artificial pond for trout on a small scale? How constructed that the spawn may best be preserved from destruction by other fish of the same species? What they are usually fed with? Whether absolutely necessary for their existence that they should be fed in the winter? Whether brook trout (or any other N. E. fish) spawn more than once in the year, and what season? Also whether there is any practical work published upon the subject of propagation and management of fish generally, especially the trout? *c. c. r. Hopkinton, N. H.* [An essential requisite for successful fish ponds is to have a stream running constantly to prevent the water becoming stagnant, the size of the stream to correspond with the extent of the pond. It is hard to prevent the larger fish preying on the smaller ones. The management of fish is a very interesting pursuit, but we are not aware that it has ever proved profitable. *C. M. Saxton, New-York,* publishes Garlick's Treatise on the artificial propagation of fish and the construction of ponds, and sends it by mail for \$1.25. In the *Co. GENT.* of June 19, 1862, you will find a full description of an artificial fish-pond, and in the same paper for Jan. 1, 1863, a very valuable article on the artificial breeding of fish.]

OIL CAKE.—As I suppose I have fed more oil cake to cattle and sheep than any other farmer in the State, I will endeavor to answer the inquiry of *D. McC.,* (see *Co. GENT.* for Dec. 25, page 412.) I cannot say how much better it is than corn, but one thing I do know that a bushel of oil cake (50 lbs.) is better than a bushel of corn, say 60 lbs. I always fed it in the meal dry, and generally clear of any mixture, yet I don't know but it is more preferable to mix with

corn meal or buckwheat meal for cattle. That will depend on the price of each, but oil cake meal requires nothing added to it to improve it, for either sheep or cattle, and no feed will raise more wool. That is my opinion.

Near Geneva, 24th Dec., 1862.

JOHN JOHNSTON.

BROOM CORN.—Would some of your correspondents give their method of curing broom corn out of doors, as I wish to raise some acres, and have no place under cover to dry it.

H. H. M.

SHEEP ON FLOWED LANDS.

MESSERS. EDITORS.—The question is asked over the signature of Brooks, if sheep will do well on land which is flowed in the early part of the season.

I kept about five hundred sheep on very flat beach land in Licking Co., Ohio. Some considerable portion of the pastures were covered with water at least one-third part the spring and summer. The land was of a productive character, that is in the grass line; the soil was based on blue clay, all but as impervious to water as a plate of steel. Notwithstanding the great amount of surface water, yet my sheep were always healthy, as much so as on the farm I now live on. *N. P. A. Elm Grove, Ohio Co., Va.*

[For the Country Gentleman and Cultivator.]

SUBSTITUTE FOR COFFEE.

L. TUCKER & SON.—Having noticed in *Co. GENT.* several articles mentioned as a substitute for coffee, and believing that *rye properly prepared* is the best substitute we have for coffee, I give you our way of preparing the rye: First pick it, then wash it, then boil until most of the grains are burst. Spread a strainer over a cullender, and rinse thoroughly, or until the water leaves it clear; this rids it of the rank or strong taste it otherwise has; drain it, then spread it to dry thin in a pan or other vessel suitable for the purpose. When dry, brown it as coffee, grind it, then to each tablespoonful add half a teaspoonful of "Waring's Extract of Coffee." It needs nothing to clear it, for it will be bright and clear, and we think so good that no one need care any longer for the price of real coffee. *D. C. Chester Co., Pa.*

[For the Country Gentlemen and Cultivator.]

OPHTHALMIA IN SHEEP.

In *COUNTRY GENTLEMAN* of Jan. 1st, I see an inquiry by *D. E. L.* as to a disease in sheep's eyes. I may state that my stock had the same disease about three years ago, and at first gave me considerable trouble, and spread through the whole flock. The disease is the Ophthalmia, and is highly contagious. The best, cheapest, and most certain remedy I discovered, was to take the sheep between my legs, and with a pen or sharp-pointed knife cut across a vein on the side next the nose, and about half an inch below the eye, at the lower angle of a small depression in the skin, caused by the elevation of the nose. Perhaps it might be well to get a sheep's head, and take the skin off at the place I have indicated, to ascertain the exact locality of the vein. There is no danger of cutting across the vein, as I have cut hundreds and never had the least difficulty; and the cure is certain, if the internal structure of the eye is not implicated from neglect. I have seen both eyes completely covered with a thick film, and in four days after cutting and letting a few drops of blood fall back into the eye, completely cured; the wound requires no after application. If cut in the acute stage of inflammation, and before a film is formed, the sheep will be well the next day. Constant attention for months afterward is necessary, and till the disease is completely eradicated. The disease first shows itself by a smallness and wateryness of the eye, and on close examination some of the veins will be found engorged. *JOHN McALLISTER. Pokagon, Mich., Jan. 8.*

ALDERNEY COWS, HEIFERS AND BULLS,

For sale by
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New-York City.

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Feb. 13—w&mtf. Hazelwood, Albany, N. Y.

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The subscriber wishes to let on shares, to an experienced and successful farmer, from the 1st April, some 500 acres of the Jay farm, Bedford, Westchester Co., N. Y., near Katonah Station, on the Harlem Railroad, and two hours from New-York.

The farm is now chiefly devoted to sheep and milk, and has a milk contract with the New-York Hotel. The tenant will be prepared to buy for cash an undivided half of the stock on hand, including about 60 cows and 400 sheep, at a price to be fixed by disinterested appraisers. The farm house is large and comfortable, and the farm buildings ample and convenient. Parties applying will please state fully their qualifications and reference. Those wishing to view the farm, may ask on the premises for Samuel Gourlay or Joseph Jones,
JOHN JAY, 194 Fifth Avenue,
New-York City.

Jan. 18—w4tm1t.

WANTED.—A Practical Farmer, one who has had experience in the cultivation of vegetables, and is capable of taking charge of a farm. An Englishman, Scotchman or German preferred. Address F. A. STOW, Troy, N. Y.
Dec. 25—w4tm2t.

BERKSHIRE PIGS—Of strictly pure breed, for sale by WM. J. PETTEE, Lakeville, Conn.
Dec. 18—wew8tm4t.

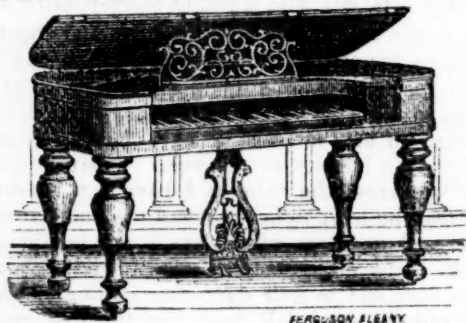
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Dec. 4—w&mt2t.

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 10. Time for Pruning Orchards.
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- VIII. NOTES ON NEW AND DESIRABLE FLOWERS—TEN ENGRAVINGS.
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 2. Japan Pinks.
 3. Bidens Atrosanguinea.
 4. Cuphea Limpani—The Striped French Marigold.
 5. Dwarf Nasturtium—New Sweet Williams.
 6. Dwarf Convolvulus—Oenothera Camarkiana—Splendid Gazania.
 7. Lychnis Haageana—Whittavia Grandiflora.
 8. Calceopsis Cardaminifolia—The Gaillardias.

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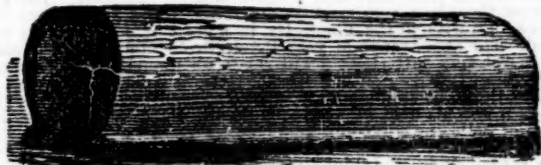
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Beware of spurious imitations, put up in barrels to resemble this Company's brand.

Attention is called to the following letter from a farmer:

FARMINGTON, N. H., October 9, 1862.

JAMES R. DEY, Esq., President Lodi Manufacturing Co.

For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight-house; opened it; came to me with eyes wide open, and said: "YOU HAVE GOT CHEATED; THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then omitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no perceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides DIRT. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me \$4.20. He informed me afterwards that he took it into his field all alone, and opened it; said he, I said to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them \$5 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it will not kill the seed.

And again, it is not so expensive. My method is TO PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

Respectfully yours,

GEO. L. WHITEHOUSE.

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Jan. 29—w13m3t.

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